UGANDA PROTECTORATE

ANNUAL REPORT

OF THE

Medical Department

FOR THE

Year ended 31st December, 1946

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MEDICAL DEPARTMENT

ANNUAL REPORT

For the Year ended 31st December, 1946
(including a Review of the Period 1939–1945)

SECTION I—ADMINISTRATION

Staff.

(i) *Headquarters.*—During the period under review, a considerable number of changes in Headquarters staff took place.

(ii) *Provincial and District.*—Three new senior appointments have been made. One in 1943 from the medical officer's grade in Uganda and two in 1946 from the same grade in neighbouring territories. Three Senior Medical Officers were lost to the service, one by retirement, one by death while on active service with the army and one by transfer on promotion.

Additional Specialist posts created during the period 1939–46 have raised the establishment of this grade to eight. The specialists are attached to or work in close association with Mulago Hospital. The posts of Alienist and Anaesthetist remain vacant. An experienced officer selected for the latter post died in England at the end of 1946 before joining the service.

The manpower contribution of the Department to the forces during hostilities was a creditable one. The majority of the European staff volunteered for service in any theatre of war, but the needs of the civilian population permitted the release of only a proportion. Even so, by the end of 1940, more than one-fifth of the total staff of medical officers, nursing sisters, health inspectors and laboratory personnel had been seconded for service with the military forces. The response of the African staff was no less inspiring, as many from both Government and Mission hospitals entered the Medical Corps at the beginning of the war.

The period 1939–46 also saw many changes in the staff of medical officers due to retirements and transfers on promotion. Fifteen medical officers and five health inspectors of this period are no longer in the service. One officer retired from the Laboratory Division. To compensate for this exodus, nine new medical officers were recruited, four of whom are still employed. Three R.A.M.C. officers were seconded for civil duty for short periods. In 1946 nine medical officers joined the service.

The effective strength of the nursing staff fluctuated considerably during the war, sickness and marriage being the principal factors concerned. During these years grave difficulties were encountered in maintaining the strength of nursing sisters at an effective level in the larger hospitals, and only too frequently did it become necessary to withdraw nursing staff from districts, to the great detriment of efficiency in the local hospitals and district ante-natal work. Many married women who were qualified enrolled as temporary sisters and some sisters evacuated from Singapore were also employed. There was a welcome and progressive improvement in the general staff position in 1946, though four vacancies for Grade II matrons still remained at the end of this year.

(iii) *Secondments—Military and Civil.*—All staff seconded to the army returned to civil duties within a few months of the cessation of hostilities. Despite the difficulties of maintaining our own medical services up to, at least, pre-war standards, the Department responded to appeals for assistance from other territories in which the staff position was even more acute than our own. One Medical Officer was seconded to the Seychelles in 1942 for duty as Senior Medical Officer and when he proceeded on leave in 1945 he was replaced by another. In 1946 from May till November one Medical Officer was seconded to Aden as Acting Surgical Specialist.

2. Distinguished Visitors.

Visitors to the Protectorate with an interest in the activities of the Department and its institutions included Directors of Medical Services, both Civil and Military, of East, Central and South African Areas and prominent members of the medical profession from Egypt, the Sudan, Canada, United States of America and Mexico. Dr. W. H. Kauntze, in his capacity of Assistant Medical Adviser to the Secretary of State paid an official visit in 1942. Professor P. Buxton made an official visit at the invitation of the Colonial Office in 1945 to discuss matters relating to Research into and control of Trypanosomiasis.

In response to an invitation from the East African Governors' Conference, Dr. B. A. McSwiney, Dean and Professor of Physiology, St. Thomas' Hospital Medical School, visited East Africa in 1946 to report on Medical Research and Medical Education. He spent three weeks in the Protectorate during which time he had discussions with officers interested in these problems and attended a meeting of the East African Medical Research Committee. His reports have been received and are under consideration.

3. Refugees and Internees.

In 1941 it became necessary to arrange for the accommodation of several thousand Italian prisoners of war and internees of Italian and other origin; the latter included a few women and children from Ethiopia and the Middle East. Later, numerous Polish refugees mostly women and children had also to be accommodated. These aliens began to arrive in the country in appreciable numbers during 1942 and sites for camps having been selected, buildings in temporary materials were speedily erected for their accommodation. These camps were situated in Jinja for prisoners of war, in Entebbe and Bombo for internees and at Nyabeya in Bunyoro and Koja in Buganda for Polish refugees. The provision of medical attention, as well as the supervision of the hygiene and sanitation of the camps, became the responsibility of this department. Even later when it was possible to sort out those who had medical knowledge and experience, the burden was not greatly relieved as these aliens were unacquainted with the names of British drugs or of our system of weights and measures. Furthermore, they had little knowledge of tropical medicine, the teaching of which was rendered the more difficult by reason of the many languages spoken and the lack of fluent interpreters. However, the medical personnel in the camps were slowly taught to recognise and treat tropical ailments and a course of instruction for laboratory assistants was given in the Kampala Central Laboratory. Facilities were also provided for the training of Polish girls as nurses and of young men and women in sanitation and hygiene, so that as the years passed the foreigners themselves assumed most of the medical and sanitary responsibilities of their own camps, leaving the Protectorate staff with advisory and supervisory duties only. Serious medical and surgical cases were always transferred to Kampala for specialist treatment.

The occupants of every camp were protected as soon as possible against yellow fever, smallpox and the enteric fevers, protective maintenance inoculations being repeated at suitable intervals. Suitably sited permanent buildings at Entebbe and Bombo were converted into hospitals for internees while at the Polish camps of Nyabeya and Koja and at Kampala European Hospital, temporary structures were utilised for a similar purpose. At first all drugs, dressings, instruments and appliances were supplied from Medical Departmental stocks, but later local supplies were supplemented by stocks from Red Cross sources.

Patients from these camps who were suffering from phthisis were sent to suitable stations in Kenya and Tanganyika, while for those who required a change of environment during convalescence accommodation was arranged at Fort Portal.

From 1942 until later in the following year, the numbers increased rapidly as new batches of all categories continued to arrive. Thereafter, till the end of 1945, such fluctuations as occurred were due principally to transfers of personnel to and from other camps in this and neighbouring territories. While the termination of the war brought little change to the refugees most of whom are still in the country, it brought a rapid reduction in the number of prisoners of war and internees. Bombo was closed and the few remaining internees concentrated at Entebbe.

The general health of the refugees, more than half of whom were women and children who had travelled from Poland and Russia under rigorous conditions, was poor on arrival, both the physical and mental condition being affected to an appreciable degree. Many were verminous, scabies was common, while among the children in particular trachoma and conjunctivitis were prevalent. Signs of malnutrition were manifest and disorders of the digestive system, usually of short duration, were common during the phase of physical accommodation to changes of diet. Cutaneous manifestations of malnutrition in the form of ulcers, showed a high incidence in the first year of residence. In January 1943, 386 new cases were recorded, the monthly average being 115 for the year. In the succeeding years the incidence fell rapidly to negligible proportions, the monthly average figures for 1944, 1945 and 1946 being 26, 0·7 and 0·6 respectively.

Cases of malaria occurred at all seasons of the year with an increase in numbers during the wet periods. At Nyabeya (Bunyoro) where statistics were carefully kept, the number of cases reached 1,538 in July 1944 while in October 1945, 470 cases were recorded. Anti-malarial measures were regularly carried out in all camps and at the same time neighbouring swamps and streams were also dealt with. Mosquito nets at first in short supply were later issued to all and instructions were issued warning of the danger of wearing "shorts" after dusk.

A few cases of amoebic dysentery contracted in the Middle East were treated during the early years, but later this disease became responsible for a considerable amount of ill health in the camps. Two hundred and ninety nine cases received treatment in October 1944 when the incidence of this disease reached its peak. Over the four years 1943–46 the monthly averages were 2, 59, 29, and 40 respectively. None of these cases developed liver abscess.

4. Housing.

In all the principal towns of the Protectorate housing has become a serious problem affecting alike all races, officials and non-officials. Lack of men and material during the early years of the war brought an end to all but the simplest of building procedures. The position was further aggravated by the definite exodus which occurred from coast to interior, owing to a fear of invasion or attack when Japan entered into the war. Gross overcrowding resulted from a continuance of these conditions over a period of years, manifesting itself in the case of the Asian community in the occupation of servants quarters, basements and garages. Such a state of affairs brought in its train a host of sanitary problems and the relative immunity of the country from devastating epidemics can only be considered as providential.

Measures to combat the situation at the time were, owing to current circumstances, largely palliative though both immediate and long term policies of amelioration were considered. The sharing of houses, and billeting, immediately suggested themselves as offering temporary relief, but these measures had their limitations and the few existing hotels were soon filled to capacity. This led to increased discrimination in the selection of hotel clientele, bona fide travellers being admitted but for short periods only. The standards of the Building Rules were temporarily relaxed and more building plots were made available in an effort to relieve the congestion which a survey in one of the larger towns disclosed as being alarming. Despite the many obstacles to be overcome, a measure of relief was afforded by the construction of houses for Asian officials and a hostel of detached semi-permanent cottages for European officials in Kampala which was the centre most seriously affected.

The tendency among Africans noted some years ago, to abandon construction of the circular hut with conical thatched roof, in favour of more stable rectangular structures, is still apparent in the vicinity of townships. It is likely to spread gradually in the districts, with the return of ex-soldiers and the general and steady rise in the standard of living of the population. Model houses for Africans of limited means have been constructed at some centres, but imitation is still beyond the means of the ordinary peasant and those who are in like financial circumstances. The domestic economy of the ordinary African family has been the close interest of several departments and was investigated in some detail on a number of occasions. His plot of ground provides the family with farinaceous food, with possibly a small surplus for barter or sale. The expenditure of a little extra energy on the soil will furnish the family with a return in cash sufficient to buy its other meagre requirements. It is the detribalised African with no land, hut, or stock and usually living in strange surroundings, who is most affected by fluctuations in the cost of living. Some amelioration of the conditions of these latter has been affected by an increase in wages and allowances.

5. Nutrition.

Amidst abundance of food, malnutrition can and does exist and, where the diet is predominantly farinaceous with a modicum of vegetable protein and fat the condition is believed to be prevalent. The staple diet of many of the tribes has been starch for generations and deviations from this diet are prohibited by custom, prejudice and taboo. The latter involve both sexes in some tribes and only females in others.

Recognising the evils of an ill-adjusted diet, considerable interest has been evinced in the study of nutrition and many officers have been conducting experiments and enquiries into it. A Nutrition Officer was appointed in 1946 to conduct an investigation into the diets of the different tribes, on a systematic and scientific basis, but her attention has been confined so far to a survey of the diets in use in various institutions around Kampala.

Persistent endeavours have been made to vary and extend the selection and use of available foodstuffs and to introduce new and more nutritious ones.

Following a period of prolonged drought, definite famine conditions prevailed over a great part of this and neighbouring countries in 1943. This was, no doubt, accentuated by the greatly increased population in the form of large numbers of refugees, internees, evacuees and military forces which the countries were supporting at the time.

Communal reserves were drawn upon and increased imports of food effected; an embargo was imposed on the immigration of Banyaruanda and Barundi. Starvation caused the death of some of these people on the routes of migration but elsewhere in the territory, the deprivation of food was not severe, and no deaths or serious illness were reported from this cause. A scarcity of food, short of famine, continued, with seasonal exacerbations, until 1946.

Because of the rising cost of local foodstuffs, Government established in Kampala an African Restaurant, the management of which was made the responsibility of the Township Authority. The object of the project was the provision for the lower paid worker of a substantial meal at a low cost.

Funds for a limited period were made available by Government for an experiment in providing free mid-day meals to pupils of selected schools The lack of sufficient executive staff prevented the collection of precise scientific data but observations have shown advances in weight and both physical and mental development among those receiving the meals as against an equal number of controls who did not receive the meals. This experiment was repeated in several schools where a small charge was levied to reimburse for the cost of the meals. The imposition of such a charge, however, defeats the object of the scheme, since those most in need of the meal are those whose parents are too poor to subscribe.

6. Disposal of Nightsoil and Refuse.

Sewerage, and stormwater drainage schemes for Kampala, completed in 1939, have required considerable extension in developing areas on the east of Nakasero Hill and in Old Kampala. Water-borne sanitation has been installed with septic tanks in most stations with an adequate piped water supply but the more primitive bucket system is employed, with conservancy carts, in other centres and even in some sections of the larger towns. Final disposal is by trenching.

By persuasion and the example of certain progressive chiefs, the pit-latrine is being popularised and more widely adopted in rural areas.

Incineration as a means of refuse disposal has fallen into disuse. Unskilled labour understood little of the functions of draught openings and dampers, and damage to incinerators was not infrequent. Fuel was required and in some stations was high-priced and difficult to obtain while rain interfered with the efficient action of the structure. A variety of methods of disposal has been tried at different times by medical officers of health from the "Indore Method", combining excreta and garbage, to "controlled tipping". A method advocated some years previously was inaugurated in Kampala in 1943 for the conversion of domestic refuse into compost, in replacement of the method of dumping previously practised. Mixed with the refuse are blood and stomach contents from the abbatoir, reinforced with some phosphate as an enrichment. As a concession to African susceptibilities night soil is not used in the process. 850 tons of material, yielding approximately 250 tons of compost monthly, are dealt with. The product is supplied free of charge to African cultivators in the Kibuga, the Buganda Government meeting the cost of transport. Others requiring fertiliser are charged for it. The compost factory, believed to be the first of its kind in East Africa, continues to operate with unqualified success.

7. Water Supplies.

Pipe-borne water supplies are available in the larger centres of population, the sources being lakes, rivers or bore-holes. Sand filtration is adopted in most instances and chlorine is used for the purpose of sterilisation. The need for rapid sedimentation with alum or other reagent has been manifest at certain seasons. Samples of water from public supplies are submitted at intervals for bacteriological examination. Stations at a considerable distance from the laboratory in Kampala send samples less frequently than those more conveniently situated because of the difficulties of transporting the water on ice, and also because the laboratory has for some time been working short handed and can only deal with a limited number of samples. No serious adverse reports on the water from the Kampala system have been received since 1940, but the public are advised through the press to boil all drinking water during periods when the purity of the supply is in doubt. The rapid growth of Kampala and the impossibility of renewing machinery in recent years has resulted in a serious water shortage and has necessitated the periodic cutting off of supplies in certain sections of the town for a few hours daily.

During the last seven years a total of 470 samples of water from different parts of the Protectorate has been examined. The number examined in 1946 was 80. The processed water delivered to the consumer in Kampala, Entebbe and Masindi is satisfactory and has now become so at Mbale where during the last few years excretal *B. coli* were demonstrable in one cubic centimeter of water collected from domestic taps on several occasions. In the Kampala water it is not unusual to have a relatively high colony count of bacteria of the non-coliform type, due to the growth in the pipes of harmless bacteria, which resist chlorination. Experiments were conducted during the year with water samples from different sources to determine the optimum conditions for effective clarification with alum.

Shallow wells at the margins of swamps and rivers, pools, water holes and springs form other sources of supply in the remoter areas. Many of these cease to function with the advance of the dry season and consumers are then forced to find new sources further afield. Officers of the Department have continued their activities in protecting village water supplies by building a wall to enclose the head waters and providing out and overflow pipes. The catchment areas are fenced and planted with short grass. Considerable progress in this respect is reported from Kigezi and West Nile districts. The Department of Geological Survey is doing very valuable work in sinking bore holes and by providing wells in rural areas. Large volumes of water have been impounded behind earth dams with a hard core in Lango, Acholi, Masaka Districts and elsewhere; smaller reservoirs on hard surfaces have been constructed in Karamoja for the conservation of rain waters. Cylindrical drums of corrugated iron or concrete, on a concrete base, for the collection of rain water from roofs are still used in some districts, at dispensaries and the houses of officials.

8. School Medical Service.

There is as yet no section of this Department devoted solely to this work. Nonetheless officers have continued their sanitary inspections of schools, of all grades, in urban and rural areas and have represented to those responsible any matters calling for attention. Despite the difficulties encountered, repairs, extensions and new buildings in temporary or permanent materials have been erected in many of the lower grade schools as well as new construction in permanent materials in some of the Secondary Schools. The Medical Officers of Health in townships and especially Kampala have emphasised the limitations of accommodation for scholars in both Government and non-Government schools. Building expansion has not kept pace with the numbers of pupil entrants and congestion in class rooms is prevalent. In certain cases the congestion is relieved to some extent by holding two sessions a day for students in the same class. This is a temporary expedient and the permanent solution would appear to rest, as it does in other countries where identical limitations obtain, in increasing accommodation by erecting multiple storied buildings. The reservation of play grounds for the increased population on the outskirts of towns will also require consideration.

It was revealed that, of children advised to seek treatment consequent upon a medical survey of certain schools, only a small proportion actually consulted a doctor or dentist. The services of private practitioners have been obtained in most cases in which medical treatment was sought but the attendances were in general inadequate. An effective scheme of school medical inspection must include provision for specialist advice and treatment, both medical and dental, and this in practice is obtainable at present through Government agencies only. Further, unless such services are available either free of charge or at reduced rates it is unlikely that the majority of poorer parents will give their children the benefits of the scheme. Nutritional surveys were carried out in several schools and the results of feeding the children at midday are referred to in sub-section 5—Nutrition.

A dental survey of school children was carried out in 1945 by Mrs. V. T. Darling. Most districts of the territory were covered and children representative of all the larger tribes were examined. Her observations in summary are contained in Section IX "D" and are both interesting and informative. Commander D. Barker, R.N., Dental Surgeon, repeated the survey over a portion of the area covered and his findings are largely confirmatory.

9. Labour.

The wages, welfare, housing and conditions of employment of labour have for some years been exercising the close attention of Government. Changing conditions resultant as much from the war as from general progress have brought new problems into prominence and exposed old ones in a new guise. Economics of necessity play a large part in the deliberations and decisions on this complex subject. The laws in force were found to require considerable expansion in scope and a new Employment Ordinance was enacted in 1946. The Local Civil Service Regulations for Government employees have also been revised and brought up to date.

Both Government and commercial concerns employ large unskilled labour forces on a monthly salary basis. Casual labour is not normally housed by employers in either urban or rural locations but "Labour Lines" for permanent employees are usually provided by the larger industrial companies such as sugar and sisal factories, timber mills, tea and coffee estates, and mining companies. Medical and welfare officers have been appointed at a few of these. Many workmen elect to build temporary grass huts of the beehive pattern in disorderly village fashion on land adjoining their place of employment in preference to occupying the cement floored and iron roofed quarters provided in serried rows by employers. There is no semblance of sanitation in these squatter camps and the absence of supervision is believed to be the reason for the preference shown for them.

Banyaruanda and Barundi labourers from the Congo and Ruanda-Urundi have for many years been coming to Uganda in numbers varying with the years between 20,000 and 70,000 annually, in search of work. The westerly route is through the district of Kigezi, but many more follow the southerly course via Tanganyika Territory and enter Uganda at Merema Hill in Ankole District or by way of Kyaka, a few miles south of the border of Masaka District. A camp was constructed and commenced to function in 1945 for the use of these immigrants near Merema Hill. Food, accommodation and medical facilities were provided. Their persons and their belongings were disinfested of vermin before they proceeded into the interior which they did on foot unless selected by a Recruiting Agent for an estate or factory, when they were transported by bus or lorry. It was customary for these wayfarers to return to their home when after two or three years sojourn, they had acquired some money and goods. There is a noticeable tendency among them now to emigrate with their wives and families with a view to settling in this country.

10. Anti-malarial work.

The usual measures against the mosquito in all stages of its life history continue to be taken throughout the Protectorate. Progress during war years was slower than in normal times, but the general advance was nonetheless marked.

Canalisation of swamps with main and subsidiary drains, the channels of which consist of precast concrete inverts and a revetment of stone set in cement concrete along the banks, has been effected in and around Kampala, where the length of stormwater drains in new and developing areas has also been greatly extended. Jinja as yet lacks this provision.

Earth drains with grassed banks and French drains (subsoil) have been constructed in suitable locations. The widely dished Masindi roadside drain has found favour in some stations. This type of drain has certain advantages in townships. It is about six feet wide, little more than six inches deep, and grass grown. The grass is easily kept short with a lawn mower by trundling it over the gently sloping margins. Blockage and erosion are unknown and the grass assists in the absorption of water. They are not unsightly and properly graded, act most efficiently in removing surplus water. Upkeep is negligible.

Pools incapable of treatment except at great expense were dealt with in situations where malaria was rife by clearing the banks of vegetation which was then thrown into the water. The stocking of the larger pools and sluggish streams with larvivorous fish, Lebistes, has proved singularly effective. No mosquito larvae have been recovered from such sources at any time since the fish were introduced and established. Experiments with Gambusia, were discontinued when Lebistes was found to be immeasurably superior in every respect for the purpose of suppressing mosquito breeding. The use of larvivorous fish is now regarded as a sheet anchor in the control of anopheles larvae in permanent water such as brick pits and slowly-moving streams around Kampala. It is a hardy fish capable of establishing and adapting itself rapidly to a wide range of conditions and in the absence of natural enemies is admirably suited to the purpose for which it is employed. No little economy in anti-malarial oil has been effected in Kampala for this is now used only where for any reason fish or other measures cannot be employed to advantage. Planting of eucalyptus and cassia trees in marshy areas has been carried out in many townships. Existing plantations have also been extended whenever necessary. Defensive measures against adult mosquitoes by the use of mosquito nets and protective wire gauze in houses continue automatically, though shortages of the latter have sometimes caused delay in fitting or repairing protective screens.

The insecticide D.D.T., used at first sparingly and for experimental purposes only, has been more liberally employed in recent months as supplies became more plentiful. Laboratory investigations and large-scale field experiments in the use of the newer insecticides, are being carried out by a Colonial Insecticide Research Team, with its headquarters at Old Entebbe.

Mepacrine took the place of quinine as an anti-malarial drug when supplies of the latter could no longer be obtained after the occupation of Java by the Japanese. Old usage dies hard and the more conservative sections of the public did not take kindly to the change thrust upon them. They preferred the drug they knew to a new one with which they were not acquainted. Necessity, however, enforced its general use. Quinine was available throughout the war but in much reduced quantities. Paludrine has not yet come into general use.

Anti-amaryl measures have been enforced in every township and many of the larger settlements and particularly at land and water airports. The surroundings of aerodromes have been cleared of inhabitants to the stipulated distance and residents in the vicinity and intending travellers are inoculated against yellow fever. Certificates of inoculation of both transit and disembarking passengers are checked and all planes on arrival and departure are disinfested.

11. **Maternity and Child Welfare.**

Most hospitals have separate accommodation for maternity cases. Young children accompanied by their mothers are admitted to the female wards where no special accommodation for them is reserved. In pursuance of established policy ante-natal clinics are held at district and general hospitals at regular intervals. They are well patronised. The field of operations has been gradually extended to include dispensaries, which are visited by nursing sisters. At one time during the war limitations of transport curtailed the service but the arrival of a number of ambulances permitted the resumption of this work in 1946 in most districts. There are indications that the endeavours of the nursing sisters are appreciated and becoming increasingly popular. It is manifest also that many of the more enlightened mothers implement the practical advice tendered in bringing their children for exhibition even when they are not afflicted with obvious illness. This procedure has been enjoined for many years but has hitherto met with little response because the African mothers could see no purpose in taking a healthy child to a hospital or dispensary.

12. Medical Education.

The Mulago Medical School is concerned with training of Africans to the standard of assistant medical officer. The early training produced a type of officer who, notwithstanding certain shortcomings and deficiencies in education has been of use in enabling the expansion of the medical services of the Protectorate to go forward. The length of the course in physiology has been extended to two years and it is considered essential that it should remain so until the basic education in science in the secondary schools improves materially. Physiology is now taught by a member of the staff of Makerere College.

An average of five students pass the Final Examination each year. Since and including 1940, 34 candidates have obtained the Diploma in Medicine (East Africa). Of these, 11 were candidates from the neighbouring countries of Kenya, Tanganyika and Zanzibar who had been sent for training by the Governments of these territories. It has been the practice of the Examining Board to appoint extern examiners with special knowledge of their subjects, from the Government services of adjoining territories. During the war unique opportunities were presented and fully exploited, of obtaining the services of specialist officers in the Royal Army Medical Corps.

The lack of post graduate courses is regrettable but their introduction has been found impracticable because of shortage of staff. With a view to enabling assistant medical officers to bring their knowledge up to date. those who have been in the district for four years or more are posted back to clinical appointments at Mulago whenever possible. This procedure has not been found to give entirely satisfactory results because the gap in knowledge between the assistant medical officers trained 10 or 15 years ago and the more recently qualified men is too great.

Continuity of teaching staff is secured as far as possible by arranging that the members take their leave during vacations, and unforeseen contingencies have been met by the transfer of suitable officers.

Concurrently but independently of the school, training courses are conducted each year for medical assistants, nurses, African health inspectors and dispensers. Midwives are not trained at Mulago. For many years this course of instruction has been given by the mission hospitals in Kampala.

Asian Nursing Staff.—Repeated attempts to obtain the services of qualified Asian nurses from contiguous territories and from India have proved unavailing. Approval was given by Government in 1938 for the training of Asian Staff by the missions on the same terms as Africans. There was no response to this concession as the terms were not considered attractive enough by prospective Asian candidates. A few Eurafrican girls, trained at the mission hospitals have been engaged on terms comparable to those obtaining for Asians and have been employed with African nurses at the European and Asian Hospitals in Kampala, and elsewhere. Nurses trained at the mission hospitals are required to pass the same examination as that set for candidates from the Government training school at Mulago.

SECTION II.—A. PUBLIC HEALTH

1. General Statistics.

The following tables compare the attendance at hospitals and dispensaries during 1945 and 1946.

TABLE 1

	1945	1946
New cases	1,592,103	1,922,540
In-patients	71,958	81,229
In-patient days	836,068	853,002
Total attendances	3,974,106	4,626,026
Surgical operations	*	6,046

* No records of surgical operations in 1945.

TABLE 2

HOSPITAL CASES BY RACES (including examinations).

	1945		1946	
	New cases	Admissions	New cases	Admissions
European	3,614	1,232	3,156	1,376
Asian	9,412	2,099	13,118	2,424
African	624,295	68,627	732,495	77,429

2. Hospitals.

No new permanent hospital units have been erected since 1939, though complete hospitals in temporary materials have been constructed and equipped at the main settlements for refugees and internees. Rehabilitation wards of semi-permanent construction, were built at certain district hospitals in anticipation of a demand for hospital accommodation from returning soldiers who might be unfit to return to their homes on demobilisation.

10 new buildings, including four wards, clinics, laboratory, school and theatre were erected at Mulago to meet the pressing need for additional accommodation. Occupation of these buildings was unavoidably delayed until 1946 owing to the lack of sanitary and electrical fittings. One ward and a theatre remain still unopened. They will be brought into use when trained staff and equipment become available. Medical training schools of semi-permanent construction for ex-soldiers have been completed and taken into use at Masaka, Lira and Mbale. Accommodation for tutorial staff has also been provided. The two former schools are intended for the training of nursing orderlies and medical assistants and the latter for the training of hygiene orderlies.

3. Dispensaries.

Several new dispensaries have been built and brought into use. Some of these are permanent buildings but the majority are of wattle and daub construction. The numbers of aid posts visited weekly from dispensaries has also increased. All these latter are temporary structures and as with dispensaries, their siting is determined by demand and density of population. Their retention, conversion into dispensaries or abandonment is dependent on the response to the facilities afforded. It is indicative of progress that extensions of these services have taken place in the districts of Chua and Karamoja where communications have been difficult and the people have hitherto evinced little interest in medical facilities.

The number of cases seen at station hospitals and dispensaries 1940–1946 was as follows:—

TABLE 3

	1940		1941		1942		1943		1944		1945		1946	
	New cases including examinations	Re-attendances	New cases including examinations	Re-attendances	New cases including examinations	Re-attendances	New cases including examinations	Re-attendances	New cases including examinations	Re-attendances	New cases including examinations	Re-attendances	New cases including examinations	Re-attendances
Hospitals ..	475.948	753,604	541,235	752,048	558,332	811,470	544,304	804,109	562,342	769,466	637,321	774,839	748,769	882,691
Dispensaries ..					748,221	1,470,877	831,712	1,513,716	854,986	1,431,445	954,782	1,607,164	1,173,771	1,820,795
TOTAL ..	475,948	753,604	541,235	752,048	1,306,553	2,282,347	1,376,016	2,317.825	1,417,328	2,200,911	1,592,103	2,382,003	1,922,540	2,703,486
	*1,229,552		*1,293,283		3,588,900		3,693,841		3,618,239		3,974,106		4,626,026	

*Only the diseases treated in station hospitals and at dispensaries in charge of an Assistant Medical Officer are included in the years 1940 and 1941.

The following were the principal causes of deaths in hospitals:—

TABLE 4

	1939	1940	1941	1942	1943	1944	1945	1946
Total Admissions	32,728	36,113	42,114	51,768	55,463	59,415	71,958	81,229
Total deaths	1,762	1,629	2,007	2,432	1,775	2,453	2,453	3,261
Pneumonia	329	289	246	420	288	249	315	388
Accidents	162	*	*	*	*	*	*	*
Plague	308	268	213	338	..	1	4	..
Syphilis	23	..	112	21	26	31	32	35
Dysentery	36	16	36	32	265	106	59	82
Malaria	81	122	159	207	146	221	208	265
Tuberculosis	96	..	87	33	115	137	110	134
Cerebro-spinal-meningitis	58	20	38	204	227	217	271	497
Cancer	20	33	23	35	..	..	1	18
Death-rate in hospitals	5·38%	4·51%	4·76%	4·69%	3·20%	4·01%	3·40%	4·01%

*Not recorded under this heading.

4. General Diseases.

The following table gives a summary of cases examined and treated by qualified staff:—

TABLE 5

	Cases	Deaths
Epidemic, endemic and infectious diseases ..	241,649	1,300
General diseases	94,905	252
Affections of the nervous system and organs of the senses.	48,170	62
Affections of the circulatory system	1,322	80
Affections of the respiratory system	88,050	535
Diseases of the digestive system	68,720	284
Diseases of the genito-urinary system	6,010	129
Affections of the skin and cellular tissue ..	103,638	174
Affections produced by external causes.. ..	59,578	228
TOTAL ..	712,042	3,044

5. Communicable Diseases.

Notes on the various communicable diseases found in the territory are given below:—

(i) *Malaria.*—97,189 cases of malaria with 265 deaths occurred during 1946 as against 76,160 cases and 208 deaths in 1945. While cases of this disease occur throughout the year in all areas of the Protectorate the measures adopted to safeguard the population in townships are usually adequate to prevent other than sporadic cases occurring. In 1944, however, malaria occurred in epidemic form owing to unusual weather conditions of light showers at frequent intervals creating circumstances favourable not only for large scale breeding of *A. gambiae* but for increased longevity of the mosquito itself. These meteorological conditions were general throughout the Protectorate and resulted in the disease assuming epidemic proportions. Similar weather conditions recurred in 1946, but in this instance were limited to the Mengo District. The enquiry into the role of *A. christyi* as a vector of malaria in the District of Kigezi was further pursued but the evidence still remains somewhat inconclusive.

Table showing by Provinces the number of cases of malaria reported during the period 1939–1946.

TABLE 6

Year	Buganda Province		Eastern Province		Western Province		Came into being 1/1/46 Northern Province	
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
1939 ..	22,799	29	29,812	23	23,322	29	..	..
1940 ..	13,506	43	15,668	47	14,874	10	..	..
1941 ..	14,159	28	24,724	96	17,139	35	..	..
1942 ..	16,598	44	27,942	118	17,180	45	..	..
1943 1944 }			No accurate figures are available					
1945 ..	19,801	53	33,820	86	22,539	69	..	..
1946 ..	27,722	59	37,355	112	13,739	37	18,373	57

Table showing the total cases of malaria with the number of deaths in Hospitals and the Death Rate during the period 1939–1946.

TABLE 7

Year	Cases	Deaths in Hospital	Death-rate
1939	75,933	81	1·06
1940	44,038	122	2·77
1941	55,022	159	2·88
1942	61,720	207	3·35
1943	57,070	146	2·55
1944	9,137*	221	..
1945	76,160	208	2·75
1946	97,189	265	2·72

*The figure given is that of in-patients only: 1944 was an epidemic year for malaria.

The following table shows the number of cases of malaria admitted to 23 different Hospitals from 1940–1946.

TABLE 8

Station	1940	1941	1942	1943	1944	1945	1946
Kampala (European and Asian) ..	475	329	287	315	396	325	447
Mulago (African) ..	690	682	699	671	844	472	453
Entebbe	225	355	273	175	437	387	344
Masaka	467	456	904	1,025	1,499	720	955
Mbarara	430	355	420	244	443	546	467
Jinja	427	1,151	2,137	1,485	481	822	1,172
Tororo	69	113	122	197	140	741	695
Soroti	177	352	556	177	351	470	588
Lira	146	189	431	295	438	393	470
Gulu	190	189	199	356	532	930	980
Masindi	108	134	257	243	204	240	266
Arua	74	87	42	143	105	83	239
Luzira	127	352	141	82	214	170	129
Mbale	578	621	863	638	591	678	1,189
Kitgum	55	106	99	110	184	179	594
Fort Portal	126	223	139	104	263	410	331
Namasagali	15	30	63	102	75	120	162
Moroto	9	19	11	15	19	39	88
Bombo	26	48	..	95	129	278	325
Mubende	60	33	51	53	141	75	102
Moyo	52	26	45	19	57	7	202
Kabale	196	301	204	115	320	321	397
Hoima	118	125	89	93	201	261	254
TOTAL ..	4,840	6,256	8,032	6,752	8,264	8,667	10,849

(ii) *Blackwater Fever.*—Returns of this disease are not as full as could be wished but some medical officers have commented on the reduction in its frequency of appearance since the exhibition of mepacrine became more or less general. Returns indicate the occurrence of 95 cases of which 37 were treated in hospitals. The death rate from this disease when treated in hospital was 21·6 as compared with a rate of 10·3 among those treated elsewhere. The high rate for those treated in hospitals occurs among those who living remote from medical and nursing facilities have to be transported long distances to receive them and cases of blackwater fever do not travel well. A total of 14 cases terminated fatally.

Table showing the number of cases, deaths and the case mortality of Blackwater Fever for the period 1939–1946. (The number of cases include those treated by private practitioners).

TABLE 9

Year	Cases	Deaths	Case Mortality	Year	Cases	Deaths	Case Mortality
1939 ..	161	39	24·2	1943 ..	162	25	15·4
1940 ..	217	39	26·7	1944 ..	187	40	20·9
1941 ..	142	24	16·9	1945 ..	104	26	25·0
1942 ..	176	27	15·3	1946 ..	95	14	14·7

(iii) *Trypanosomiasis.*—214 cases of trypanosomiasis were reported in 1946 against 317 in the previous year. 15 cases occurred in Buganda, 46 in the Eastern and 153 in the Western Province. Extensions of *G. pallidipes* and *G. morsitans* have been reported in many areas, emphasising the potential danger of the situation as regards trypanosomiasis despite the present low incidence of this disease. The infection has not been eradicated but is being kept within manageable proportions. No marked change in this incidence has been noted of recent years in the various sleeping sickness areas dispersed around the country save in one district. This exception was in Busoga where an explosive eruption of the disease first attracted attention at the end of 1941. This outbreak was found to have extensions into Mbale District and over the boundary into Kenya. The island of Buvuma adjacent to the Busoga littoral was also affected. Up to the end of 1943, 2,626 cases occurred in this area with 265 deaths.

The severity of symptoms and the rapidity of the course of the disease occasioned doubts as to the causative organism being *T. gambiense*, even allowing for a mutative accession of virulence in a local strain. Animal experiments showed the doubt to be well founded for the organism was proved to be *T. rhodesiense*, hitherto unknown in Uganda. This caused further speculation because of the absence in the areas concerned of the usual vectors of *T. rhodesiense, G. morsitans* or *swinnertonii*. The tsetse fly most abundantly found along the margins of Lake Victoria and adjacent rivers is *G. palpalis*, which does not transmit *T. rhodesiense*. Intensive investigation finally disclosed the fact that *G. pallidipes* which also inhabits the Busoga area was a natural vector. It is suspected that this infection was introduced by migratory labourers from Tanganyika Territory.

The situation caused no little anxiety and alarm. Immediate and extensive measures of protection for the population were initiated and as is usual in these circumstances the effect was not directly apparent. There was a time lag during which large numbers of cases continued to seek treatment but eventually the epidemic was brought under control in 1943. Though a few cases still occur and are not regarded with complacency, the danger of further epidemic spread has been removed for the present.

A close watch is still maintained in all affected areas and no defensive measures have been relaxed. All over the territory where necessity demands, clearings are being satisfactorily maintained. A few have been abandoned as their period of usefulness has expired and new ones have taken their place.

In conjunction with the Department of Tsetse Research Tanganyika, a Tsetse Survey Unit was created in 1943, as part of the section of Medical Entomology in Uganda to survey the tsetse belts and define their limits. Until the Tsetse Survey Unit came into being the depleted staff of the Entomological section of the Laboratory Division had undertaken irregular surveys of this type for both the Medical and Veterinary Department. It early became evident that in many areas tsetse of different species were not confined to belts but were rapidly invading new territory and presenting a menace to both man and beast, even down to the densely populated Kingdom of Buganda. Control of these encroachments was begun by the Tsetse Survey Unit in addition to survey work and the unit was enlarged by the recruitment of Field Officers.

The following table shows the incidence of Sleeping Sickness, with the number of deaths, for the period 1939–1946.

TABLE 10

Year	New Cases	Reported deaths
1939	504	7
1940	425	9
1941	934	51
1942	2,190	209
1943	123	5
1944	367	37
1945	317	12
1946	214	10

Table showing the distribution of cases, by districts, during the period 1939–1946.

TABLE 10A

District	1939	1940	1941	1942	1943	1944	1945	1946
West Nile	475	355	304	246	..	148	107	103
Acholi	12	..	..	..	..	..	103	12
Madi Sub-district	8	..	..	..	..	..	..	..
Toro	8	..	..	106	..	..	..	31
Busoga	1	70	630	1,838	87	50	45	29
Mengo	..	..	..	..	36	50	1	15
Mbale	..	..	..	..	..	50	20	2
Lango	..	..	..	..	..	..	28	7
Teso	..	..	..	..	..	..	1	15
Other districts	..	..	..	..	..	69	12	..
TOTAL	504	425	934	2,190	123	367	317	214

(iv) *Relapsing Fever.*—Of a total of 1,088 cases of this disease treated in hospitals during 1946, 35 patients died. Returns from Mbarara in Ankole District, where the disease is endemic and increasing in incidence, account for 700 cases and 15 deaths. The focus of endemicity of relapsing fever is situated in the south west in the districts of Ankole and Masaka where the insect vector, *O. moubata,* is firmly established. Improvements in communications and the migratory habits of the

Banyaruanda have conduced to the dispersal of this vector in an eastward and northward direction along the routes of travel. Repeated attacks of the fever have conferred a degree of tolerance on the indigenous population but strangers suffer severely. The control of these ticks is difficult Such control measures as are available are discussed in Section 3 of this report.

Table showing the number of cases of relapsing fever at 19 different stations during the period 1939–1946.

TABLE 11

Station	1939	1940	1941	1942	1943	1944	1945	1946
Fort Portal	40	8	..	7	14	31	33	21
Kabale	18	14	26	44	57	37	43	24
Lira	..	..	..	..	..	1	..	..
Mbarara	266	159	180	314	352	289	329	349
Masaka	105	127	163	437	183	236	281	381
Kampala	16	1	3	..	2	1	..	4
Mubende	1	1	4	140	10	17	26	11
Kampala Sanitation ..	..	16	3	18	9	4	10	4
Mbale	..	..	..	2	..	..	1	..
Mulago	..	..	26	60	70	51	76	25
Namasagali ..	..	..	..	1	..	4	..	..
Entebbe	..	2	8	5	3	16	20	2
Tororo	..	..	7	3	..	1	4	..
Gulu	..	..	..	..	..	..	..	1
Soroti	..	..	..	..	..	4	3	1
Masindi	1	9	..	1	1	7	..	1
Arua	..	..	..	..	..	1	..	..
Jinja	1	5	15	13	24	11	22	3
Hoima	..	..	..	1	..	1	2	..
TOTAL ..	448	342	435	1,046	725	712	850	827

(v) *Rabies.*—This disease has again made its appearance in the Eastern Province. Antirabic treatment was given at Mbale Hospital to 68 persons bitten by dogs and other animals suspected of being rabid. Two cases of hydrophobia both fatal occurred in patients who discontinued protective treatment and absconded. At the opposite corner of the Protectorate, rabies manifested itself in the West Nile. In this area 41 persons were bitten by dogs suspected of suffering from rabies and received courses of antirabic inoculation. One fatal human case is reported from Moyo. Negri bodies were demonstrated in several of the dog brains sent for examination and in both foci a campaign for the destruction of unregistered dogs was undertaken.

Rabies makes an unwelcome periodic appearance on the borders of Kenya in the East and the Congo in the southwest and northwest with incursions into the neighbouring areas in Uganda of Bugishu and Budama, and the West Nile District.

(vi) *Anthrax,* in the form of malignant pustule is occasionally reported from Kigezi, Ankole and Masaka in the southwest of the Protectorate.

(vii) *Smallpox.*—Extending from Kenya in 1943, smallpox spread through the border districts and thence all over the country. The disease was mild in form (variola minor) but despite the most energetic measures of control was not checked in its course till 1946. The number of cases reported in 1946 was 581, none of which was fatal. This compares with 1,558 cases with five deaths in the previous year.

Competent observers remarked on the lack of evidence that mass vaccination had any significant effect in influencing the course of the epidemic and advocated the abolition of the system. Mass vaccination was discontinued during the past year, incidently affecting no inconsiderable economy, but contacts continue to be immunised whenever possible. Facilities are of course provided for all those who still desire protection.

Vaccination statistics for this year and a comparative table for the previous seven years are attached at Table 12.

Table showing the number of vaccinations against Smallpox performed yearly during the period 1939–1946.

TABLE 12

1939	345,425	1943	1,235,284
1940	306,769	1944	2,295,929
1941	839,443	1945	2,122,612
1942	291,826	1946	964,754

(viii) *Cerebro-spinal Meningitis.*—This disease occurs in sporadic form in most districts but outbreaks in the Eastern and Northern Provinces reached epidemic proportions in 1946, the Teso and West Nile Districts suffering severely. A total of 6,348 cases were reported for the whole country and of these 684 died. The corresponding figures for 1945 were 2,842 cases with 350 deaths.

(ix) *Venereal Diseases.*—The incidence of these diseases has been steadily increasing for some years, even in tribes among whom it was previously rarely found. Improved communications and cheaper transport facilities combined with disturbances to the balance of population and the social habits of tribes resultant on the war have all contributed to this state of affairs. The increase in the number of patients coming under treatment in the past three years is shown in the accompanying figures. The increasing incidence involves all forms of venereal diseases. It is also possible that more patients attend hospitals now that the results of treatment with the sulfa drugs and penicillin have made manifest the possibilities of rapid cure.

	1944	1945	1946
Syphilis	24,021	31,549	39,444
Gonorrhoea ..	10,526	14,936	20,098
Other Venereal diseases	4,387	4,965	5,967

Table showing the number of cases yearly of syphilis and yaws during the period 1939–1946.

TABLE 13

	1939	1940	1941	1942	1943	1944	1945	1946
Syphilis ..	57,542	20,138	18,951	19,692	23,599	24,021	31,549	39,444
Yaws ..	76,427	24,665	22,942	24,069	26,769	27,655	33,697	35,185
Both diseases	133,969	44,803	41,893	43,761	50,368	51,676	65,246	74,629

Showing the number of cases of gonorrhoea, treated during the period 1939–1946.

TABLE 13A

1939	16,465	1943	11,415
1940	7,178	1944	10,526
1941	7,347	1945	14,936
1942	8,669	1946	20,098

It was anticipated that these diseases would increase both during and after the war and experience has justified the fears entertained. In the larger towns the prevalence has in several instances been more than doubled. Syphilis is more common than gonorrhoea while the other forms of venereal diseases constitute a relatively minor problem. All these diseases have now become evident in districts in which they were formerly unknown.

The army authorities undertook the task of deferring the demobilisation and repatriation of infected soldiers, till they were rendered non-infective by courses of treatment. This co-operative attitude was much appreciated.

(x) *Yellow Fever.*—The Yellow Fever Research Institute of the Rockefeller Foundation in Uganda has continued its investigations into this and other virus diseases. The virus of this disease has been recovered from time to time in catches of Aedes mosquitoes in Bwamba county on the borders of the Eturi Forest west of Mount Ruwenzori. The Institute has established a station in Bwamba county on the borders of the Eturi Forest and many of its investigations have been carried out in this locality. In the 1941 Annual Report of the Institute it is stated that "Yellow Fever virus was isolated from a human case which occurred in the Bwamba county of Toro District in June, following investigations carried out by Dr. Mahaffy of the Rockefeller Foundation in that area, during April, which revealed that a number of persons whose protection tests had been negative in the previous year had become immune".

Mass inoculation involving 150,000 people was organised and carried out in the Western portion of the district and certain restrictions on travel imposed. At a subsequent survey two years later of a cross section of the population 92% were found to be protected. In the routine course of their enquiries the existence of other viruses in this area, including that of Rift Valley Fever, has been brought to light.

With a view to determining which mammals acted as extra human reservoirs in the propagation of yellow fever, the sera of a wide variety of wild animals were subjected to tests. Other than the primates only a single hydrax was found to be immune among the many examined. Much useful information was gleaned concerning the species and habits of mosquitoes infecting the jungle as a result of the search for other mammalian hosts.

(xi) *Infective Hepatitis.*—At a sugar estate in Busoga an eruptive outbreak of this disease with a phenomenally high mortality rate occured in the middle of 1943. It lasted only a few days and subsided with as spectacular suddenness as it arose.

(xii) *Leprosy.*—Patients suffering from this disease who sought treatment at Government hospitals and dispensaries during 1946 numbered 483 compared with 886 in 1945. The corresponding figures for previous years were:—

1939	1940	1941	1942	1943	1944	1945
1,700	518	472	434	496	455	886

Mission Leper Colonies.—There are five of these colonies, three being under the care of the C.M.S. and two in charge of Sisters of the Order of St. Francis. These institutions are visited by the medical officers of the districts in which they are situated and advice is tendered where necessary on matters pertaining to the treatment of the lepers or the hygiene and management of the settlements. The following are extracts from the reports submitted on the different colonies.

Namagera Leper Settlement—Busoga District.—This settlement formerly known as Buluba, is controlled by Sisters of the Franciscan Order.

	Number.
Resident at end of 1945	288
Admitted during 1946	189
Births during 1946	4
Deaths during 1946	13
Discharged during 1946	113
Remaining on 31–12–46	341

Admissions are limited at present to those whose prospects of relief or cure are good. Those living in the vicinity attend with regularity for treatment as out-patients. Old-standing and burnt-out cases are returned to their villages, so as to make room for new cases more amenable to treatment.

Intercurrent diseases from which the lepers suffer, of which malaria, syphilis and intestinal parasites are the most common, receive appropriate treatment. Four cases of sleeping sickness, two of which recovered under treatment, were discovered among the inmates during 1946. One died and one is still receiving treatment. Prophylactic injections of antrypol are given to all exposed to infection while engaged in clearing bush.

The health and morale of the lepers has been generally good and the results of treatment encouraging. Those of the inmates who are capable, are set to work in groups, as much to keep them occupied as to encourage them to contribute towards their support.

Leper children are given an elementary education to eliminate illiteracy, the classes being separated according to degree of infectivity. Untrained children of leprous parents are segregated and, as they reach school age, they are sent to a neighbouring school outside the camp. Eight such pupils have been admitted to Iganga Boarding School during 1946.

A new food store, temporary dormitories, classrooms, kitchen and latrines for lepers and quarters for unaffected employees have been erected. Reconstruction and repair of other buildings has also been taken in hand.

Teso District.—The settlements for lepers in this district are conducted by the Church Missionary Society. They include Kumi and Ongino.

The Kumi Leper Home accommodates children up to the age of sixteen years, after which they are transferred to the adult colony at Ongino.

Below are given the figures for inmates at Kumi:—

Number of leper children.—Remaining from 1945	379
Admitted in 1946	30
Discharged in 1946	25
Transferred to Ongino in 1946	12
Died in 1946	3
Remaining on 31–12–46	369

The disease has been arrested without disabling deformity in 30 children, and with slight deformity in 22 others. Both these groups remain under observation. Improvement is graded and 103 are considered to be "much improved", 90 "improved" and 88 show "slight progress". In four instances, the patients became worse, and in the remainder no change was observable in their condition. Treatment had to be suspended in 10 cases.

Propaganda, on the prevention and control of the disease, by visits and lectures to the chiefs and people of the district, was discontinued with the departure on leave of Miss Laing. Miss Kent deputised for Miss Laing during her absence and carried on all the essential work of the Home. The need for early treatment is becoming more appreciated by the people of Teso district and some children were brought in voluntarily by their parents during 1946. This is an encouraging sign of growing confidence in the work of the Home.

The general condition of the children is good and all children in the leper home are given elementary education, the classes being graded according to the ability and condition of the child, rather than the age. Occupational therapy has its place and knitting, sewing, machining, mat and basket weaving are taught. Agriculture is also included in the timetable. Children of the maturer ages are given instruction in nursing, carpentry, plastering and painting. Scout and Guide organisations continue their activities under African lieutenants and are very popular.

Untainted children of leper children live separately from the rest and of these good progress is reported. The youngest attend a Kindergarten School on the premises, a few attend a local Day School and the elder children are sent out to Boarding Schools and return to the Home for holidays.

Ongino Leper Colony is for adult lepers.

Number of patients.—Remaining from 1945	509
Admitted during 1946	25
Discharged in 1946	26
Deaths during 1946	12
Remaining on 31–12–46	496

Cases arrested without disabling deformity number 26, those arrested but with deformity total 60; both groups remain under supervision. Of those whose condition has been ameliorated 158, 125 and 59 are considered as showing "marked", "some", and "slight" improvement, respectively. The condition of nine inmates is recorded as having deteriorated, while that of 53 remains unaltered. The treatment of 16 patients was suspended for various reasons.

The health and general condition of the patients has been good, morale has been high and the patients are happy in their surroundings. With some slight curtailment of the usual curriculum, elementary education, both academic and technical, is continued on accepted lines.

The lack of a satisfactory water supply for this institution is a source of constant anxiety.

Bunyoni Leper Colony is the third of the leprosaria in charge of the Church Missionary Society. It is situated near Kabale in Kigezi district.

Lepers resident at end of 1945	547
New admissions at end of 1946	146
Discharged at end of 1946	28
Deaths at end of 1946	15
Remaining on 31–12–46	650

As a result of treatment 219 are described as having "improved greatly", and 101 as having "improved". No benefit from treatment was observed in 104 cases and 40 are reported to have become worse. The number of cases in which the disease has been arrested is 80, of which 33 are without deformity. 752 patients sought admission to the hospital for leprosy and were treated as out-patients. This represents a higher figure than in any previous year and is considered to be the result of active propaganda in the backward areas of Kigezi District. Discharged cases are also as much an advertisement of the benefits of early treatment as of the fact that much can be done in an asylum to make the life of a leper tolerable and even happy and contented. The improvement in the general health of new cases, following admission, is marked and patients suffering from malnutrition become robust and vigorous within a relatively short time.

Two epidemics occurred in the settlement during 1946—measles and typhoid. It was noted with interest that there appeared to be a definite improvement in the leprosy of those who had an attack of typhoid.

The elementary education of children is undertaken on the usual lines and handicrafts are taught to those adults capable of benefitting from the instruction. During the past year two new buildings in permanent materials were erected as class-rooms for leper children, a Children's home of six blocks for healthy children of leper parents and six new cottages. A playground for the healthy children has been provided by levelling off a hill top.

Nyenga Leper Colony, in Mengo District, the second of the leper settlements managed by the Sisters of the Franciscan Order, is mainly for neural cases.

	Number.
Resident at end of 1945	170
Admitted during 1946	88
Births during 1946	Nil
Deaths during 1946	5
Discharged during 1946	42
Remaining at 31–12–1946	211

Here, as in other colonies, intercurrent diseases receive prompt attention. The diseases found to be most common in this connection are malaria, diseases of the alimentary tract, intestinal parasites and venereal diseases. In general, the health and morale of the patients have been very satisfactory and the hygiene and sanitation of the settlement well maintained.

Out-patients receiving treatment for leprosy are drawn from the villages in the vicinity. Out-patients who are unlikely to attend regularly by reason of the distance from their homes are referred to other leprosaria if these are more conveneintly situated. The education of children is not neglected and selected adults are taught nursing, carpentry, etc. Spare-time occupations are mat and basket weaving and games organised by way of recreation. A new refectory and laundry were completed during the year and improvements made to a bathroom and kitchen.

Leprosy in the Sesse Islands.—As a result of reports concerning the prevalence of leprosy, a survey of the population of the Sesse Islanders was undertaken by an Assistant Medical Officer. The population of the several islands of the group is estimated to be approximately 4,276 comprising 2,280 males and 1,996 females. These are divided into five Gombololas for administrative purposes.

Though the investigation was conducted at their request, 55% of the population avoided examination on the first visit of the Assistant Medical Officer to their centre, for reasons variously ascribed to their state of health or the distance of their villages from the place of examination. Probably suspicion of the purpose of the enquiry played a major role in inducing many people to stay away. The survey was in consequence repeated, so as to include those missed on the first occasion. Eventually 90·92% of the inhabitants were examined. Of these 28 males and 38 females, making 66 persons were found to be suffering from leprosy and 53 males and 34 females, a total of 87 persons, were suspected to be early cases, though diagnosis could not be confirmed by microscopic examination.

Expressed as percentages of the population of the relevant sex and of the total combined population, the results are revealed as follows:—

Male Lepers	6·5 per thousand of total population.
Female Lepers	8·8 per thousand of total population.
Male lepers including male suspects	35·5 per thousand of total population.

Female lepers including female suspects	36·0 per thousand of total population.
Combined male and female cases and suspects ..	35·7 per thousand of total population.

Except for two cases of nodular leprosy, all were of the anaesthetic type. The infection was found to be most frequent among those over 40 years of age and the incidence of definite cases among women was slightly higher than among men.

(xiii) *Kala Azar.*—This disease has hitherto been unknown in Uganda. Late in 1946 a patient was admitted to Mulago Hospital from Bombo for observation and a biopsy specimen eventually disclosed the presence of Leishman-Donovan bodies in the spleen. The patient himself as far as could be ascertained had never left the country.

(xiv) *Tuberculosis.*—The precise incidence of this disease is not known. In the absence of specific and spectacularly rapid curative remedies those afflicted are unwilling to submit to the discipline of hospital supervision and they are a source of infection to their families and others who live near them. Soldiers invalided for pulmonary tuberculosis have all been offered and strongly advised to undergo a course of treatment in hospital. After prolonged absence abroad their disinclination to accept the advice proffered is understandable, if unwise, and the majority elected to proceed home though sometimes promising to take the treatment available at the nearest hospital or dispensary.

Cases of tuberculosis treated at Government hospitals during the period 1940–1946.

	1940	1941	1942	1943	1944	1945	1946
Pulmonary Tuberculosis	405	408	314	320	354	440	483
Other forms of Tuberculosis	48	77	92	108	103	103	141

(xv) *Plague.*—In the last few years cases of plague have been surprisingly and gratifyingly few. The reason for this satisfactory state of affairs can only be a matter for conjecture. It would be optimistic to infer that the relative immunity enjoyed by Uganda in recent years will continue indefinitely. No cases have been reported from the Western and Northern Provinces.

Since 1939 cases of plague have been reported as follows:—

	1939	1940	1941	1942	1943	1944	1945	1946
Buganda Province								
Cases ..	184	260	242	317	..	14	4	3
Deaths ..	181	253	233	308	..	14	2	3
Eastern Province.								
Cases ..	123	2	10	41	..	..	7	6
Deaths ..	111	1	10	31	..	..	7	6

(xvi) *Typhoid and para-typhoid fevers* are, with the dysenteries, mainly of seasonal occurrence. Cases are frequently traced to the semi-rural environs of crowded towns where local water supplies are liable to heavy contamination. The procedure of protecting these wells and springs as described elsewhere in this report is playing an increasing part in the elimination of this danger.

(xvii) *Helminthic Diseases*—

(*a*) *General.*—Intestinal parasites or their ova are frequently found in the routine examinations of stools in hospitals, the most common being taenia, ascaris and hookworm. In the majority of cases no great disability appears to result from their presence. Preventive measures against helminths are given in further detail in Section 3 of this report.

(*b*) *Schistosomiasis,* both vesical and rectal, is found in definite though scattered areas throughout the country, the West Nile District being particularly affected.

(*c*) *Dracontiasis* occurs mainly in the north of the Protectorate especially in the districts of Chua, Gulu and West Nile which border on the Sudan.

(*d*) *Filariasis.*—Cases of onchocerciasis are found in the Busoga District for considerable distances eastwards of the broken waters of the Nile and in the Sezibwa river, Mengo District, in both of which the fly *S. damnosum* breeds in great numbers.

SECTION II.—B. VITAL STATISTICS

The last census was held in 1931 and the population of districts for the inter-censal years has been estimated in the usual manner by adding the births and subtracting the deaths from the figures of the last census. The accuracy of the figures for deaths and births supplied by native chiefs is, for obvious reasons, doubtful though the margin of error can be regarded as fairly constant in the same district. Nevertheless the necessity for some adjustment of these figures became apparent in recent years and it was effected in some estimates by multiplying the number of tax-payers by an arbitrary figure judged to be approximately correct for the "family factor". This factor necessarily varied in different districts so the usefulness of the vital statistics collected is very problematical. No regular records are kept of fluctuations of population due to migration. The largest movement of people in this connection is that of the Banyaruanda and Barundi tribes of Ruanda-Urundi. This has been commented upon elsewhere in this report. The numbers of these immigrants involved varies from 20,000 to 70,000 in different years, in former years as many returned as entered the country, but latterly a tendency has been observed for many of them to arrive with their families, indicating an intention to prolong their sojourn or to settle here permanently. To a smaller extent, natives of Uganda move to the coast and into Kenya, impelled by a desire for adventure or in search of work. Within the boundaries of the country, plantations and industries engage relatively large labour forces, sometimes seasonally as in the case of the cotton ginneries, and men are drawn from most districts into these labour forces. Men from Acholi and the West Nile are most in demand, though during hostilities manpower was also drawn from all the districts of the Protectorate.

Few general observations on the figures tabulated can be made. The number of births, as is to be expected, exceeds the deaths. More male children are born and die in the first year of life, than female children. Still-births are more frequently attributable to syphilis than other causes. With no stigma attached to illegitimacy there is little inducement for the production of abortion. When abortion is practised, medicinal abortifacients reported to be singularly effective are employed. Kigezi District in the Western Province shows the highest birth rates and Mubende in Buganda the lowest. The still-birth rate is highest and lowest in Bunyoro and Teso respectively. While at a high level in certain districts, the infantile mortality rate reaches its peak in the backward areas of the Northern Province, Acholi and the West Nile. The West Nile and Mubende record the highest and lowest death rates respectively.

Compared with 1939 the estimated population of the Protectorate has risen by 233,000 giving an annual rate of increase of 29,000 in round figures.

TABLE 14

RETURN SHOWING BIRTH, DEATH, STILL-BIRTH AND INFANTILE MORTALITY RATES FOR THE UGANDA PROTECTORATE FOR THE LAST SEVEN YEARS.

PROVINCES AND DISTRICTS	BIRTH RATE PER 1,000 POPULATION							
	1939	1940	1941	1942	1943	1944	1945	1946
BUGANDA:—								
Mengo ..	21·90	20·28	21·98	31·32	33·25	32·92	34·09	23·87
Masaka ..	33·12	33·44	33·87	26·57	31·49	30·86	37·62	36·38
Mubende ..	11·96	12·10	11·24	11·29	11·29	12·65	11·04	12·44
TOTAL ..	22·53	21·71	22·75	26·76	29·04	28·94	30·91	24·66
EASTERN:—								
Busoga ..	20·85	21·48	21·76	19·52	18·13	16·04	22·49	26·31
Mbale ..	38·04	29·10	27·90	24·59	22·78	18·85	21·96	22·76
Teso ..	25·70	24·87	23·88	22·97	22·04	19·03	19·35	25·40
TOTAL ..	28·68	25·68	25·03	22·66	21·16	18·02	21·52	23·24
WESTERN:—								
Toro ..	26·61	30·18	26·97	27·28	29·37	26·23	28·43	27·82
Ankole ..	26·21	33·10	29·07	26·51	28·69	25·57	34·88	32·69
Kigezi ..	39·52	45·41	41·95	40·69	45·29	34·05	48·29	53·84
Bunyoro ..	16·50	15·46	15·49	15·57	14·50	13·18	14·81	14·00
TOTAL ..	29·07	18·78	30·85	29·76	32·37	26·89	35·31	35·78
NORTHERN:—								
Lango ..	30·75	29·59	29·23	35·42	34·02	34·14	37·07	36·81
Acholi ..	45·86	41·77	37·02	39·58	38·25	31.24	31·34	34·76
West Nile	35·96	36·50	44·00	44·34	35·09	33·31	41·39	41·91
TOTAL ..	37·07	35·74	37·05	39·99	35·65	32·99	37·49	37·06
UGANDA PROTECTORATE ..	28·89	28·65	28·23	28·78	28·63	25·78	30·26	29·55

PROVINCES AND DISTRICTS	DEATH RATE PER 1,000 POPULATION							
	1939	1940	1941	1942	1943	1944	1945	1946
BUGANDA:—								
Mengo ..	19·37	19·03	20·38	33·44	26·27	27·64	28·81	23·07
Masaka ..	16·34	21·23	17·40	25·37	18·42	22·55	21·26	16·71
Mubende	10·17	11·03	9·51	10·06	7·35	10·15	8·66	7·87
TOTAL ..	15·59	18·09	17·82	27·56	21·22	23·47	23·63	19·06
EASTERN:—								
Busoga ..	16·98	20·43	21·46	27·08	23·33	20·56	21·33	25·80
Mbale ..	20·15	19·29	19·53	18·86	17·92	16·91	19·96	19·26
Teso ..	16·06	16·78	16·66	18·8	16·86	16·88	18·88	22·90
TOTAL ..	17·51	19·06	19·48	21·43	19·35	18·03	20·13	21·31
WESTERN:—								
Toro ..	15·16	18·24	18·44	18·17	16·25	14·13	14·36	15·21
Ankole ..	15·59	19·36	24·70	29·36	19·71	18·80	21·24	15·95
Kigezi ..	14·36	16·79	18·51	15·63	16·86	20·12	14·70	17·49
Bunyoro ..	11·20	9·22	11·16	11·77	11·56	9·58	10·78	10·92
TOTAL ..	14·54	17·15	19·60	20·22	16·98	16·98	16·36	16·71
NORTHERN:—								
Lango ..	17·44	13·26	12·84	17·13	20·97	19·80	22·07	24·43
Acholi ..	24·77	19·48	18·82	21·50	23·79	19·44	19·25	20·30
West Nile	21·51	20·63	21·01	24·38	26·23	18·11	18·66	30·80
TOTAL ..	21·09	17·83	17·51	21·12	23·76	19·06	20·05	24·39
UGANDA PROTECTORATE ..	17·02	18·12	18·75	22·54	20·10	19·28	19·99	20·26

PROVINCES AND DISTRICTS	STILL-BIRTH RATE PER 1,000 BIRTHS AND STILL-BIRTHS							
	1939	1940	1941	1942	1943	1944	1945	1946
BUGANDA:—								
Mengo ..	3·76	2·26	1·85	1·39	1·03	·76	·75	·86
Masaka ..	2·58	1·59	1·60	1·47	1·10	·59	·52	·46
Mubende ..	3·47	3·14	2·52	2·98	2·86	3·81	3·39	2·8
TOTAL ..	2·95	2·12	1·82	1·53	1·18	·96	·86	·89
EASTERN:—								
Busoga ..	6·36	5·58	5·59	5·82	4·65	3·99	4·90	5·05
Mbale ..	3·09	2·62	2·80	3·00	2·83	2·26	2·23	2·04
Teso ..	0·25	0·85	0·73	0·77	0·63	0·20	0·34	·50
TOTAL ..	2·94	3·04	3·26	3·27	2·80	2·25	2·73	2·63
WESTERN:—								
Toro ..	3·51	3·66	4·35	4·18	4·50	4·59	3·85	3·41
Ankole ..	3·21	3·46	4·00	4·33	3·53	3·32	3·02	3·35
Kigezi ..	2·61	3·08	4·35	4·89	4·76	4·69	4·26	3·98
Bunyoro ..	6·77	10·75	6·64	6·58	7·01	8·01	6·73	7·12
TOTAL ..	3·42	3·97	4·59	4·92	4·70	4·68	4·09	3·86
NORTHERN:—								
Lango ..	3·14	2·80	4·81	5·08	4·91	5·49	5·21	5·48
Acholi ..	5·13	5·05	4·92	4·92	4·76	4·84	3·98	3·75
West Nile	2·65	2·90	2·85	2·39	1·95	2·45	1·81	1·68
TOTAL ..	3·83	3·75	4·14	4·08	3·94	4·01	3·62	3·48
UGANDA PROTECTORATE ..	3·21	3·23	3·47	3·43	3·13	2·90	2·82	2·88

PROVINCES AND DISTRICTS	INFANTILE MORTALITY RATE PER 1,000 BIRTHS							
	1939	1940	1941	1942	1943	1944	1945	1946
BUGANDA:—								
Mengo ..	69·03	97·55	86·63	99·10	65·65	85·92	71·23	73·48
Masaka ..	61·33	84·11	66·16	24·32	59·42	95·18	57·28	57·28
Mubende ..	78·84	90·48	66·82	59·22	50·33	59·40	68·51	37·00
TOTAL ..	69·03	91·86	78·16	101·73	63·12	70·24	67·21	64·86
EASTERN:—								
Busoga ..	177·82	254·84	215·40	279·07	200·05	182·94	136·51	141·49
Mbale ..	122·00	161·72	137·27	130·96	123·96	122·68	130·37	125·93
Teso ..	71·66	82·00	69·45	76·26	61·54	66·51	77·12	72·81
TOTAL ..	122·56	168·65	143·78	157·99	129·24	125·46	121·20	119·43
WESTERN:—								
Toro ..	112·13	137·19	118·33	95·79	97·51	77·05	64·21	75·68
Ankole ..	109·78	116·39	141·65	135·03	87·20	91·25	94·24	102·27
Kigezi ..	74·30	58·64	40·55	38·97	43·35	52·30	37·82	49·00
Bunyoro ..	67·89	87·34	66·67	84·65	54·35	54·45	59·05	56·88
TOTAL ..	92·47	93·06	82·29	81·94	67·77	69·95	61·75	68·95
NORTHERN:—								
Lango ..	116·28	109·60	122·52	143·00	158·13	150·76	20·28	170·00
Acholi ..	255·37	196·19	195·20	215·98	255·89	245·38	20·93	204·11
West Nile	282·36	200·83	185·61	186·61	264·14	171·40	183·31	271·82
TOTAL ..	226·56	173·88	171·77	195·54	227·79	184·52	199·56	221·05
UGANDA PROTECTORATE ..	130·84	134·42	123·99	136·91	120·79	116·36	109·59	119·60

PROVINCES AND DISTRICTS	MATERNAL MORTALITY RATE PER 1,000 BIRTHS AND STILL-BIRTHS							
	1939	1940	1941	1942	1943	1944	1945	1946
BUGANDA:—								
Mengo ..	8·84	7·14	5·86	7·77	7·88	7·78	7·69	8·34
Masaka ..	9·31	4·76	5·04	6·06	5·52	4·99	5·17	2·66
Mubende ..	5·11	4·05	1·64	3·91	3·78	5·71	1·64	4·00
TOTAL ..	7·84	6·03	5·23	7·09	7·03	6·96	6·61	6·04
EASTERN:—								
Busoga ..	15·32	13·18	12·27	16·43	13·47	8·64	6·98	11·07
Mbale ..	7·44	6·45	5·71	6·43	4·26	5·07	4·19	6·01
Teso ..	7·09	10·22	4·55	7·99	7·88	7·31	5·93	3·96
TOTAL ..	9·19	9·11	7·31	9·56	7·62	6·61	5·47	7·29
WESTERN:—								
Toro ..	12·06	12·88	9·83	9·65	8·35	9·23	5·80	8·39
Ankole ..	5·49	4·96	7·35	6·61	4·88	4·71	5·12	4·10
Kigezi ..	3·04	4·25	5·41	4·60	2·96	5·65	3·87	3·79
Bunyoro ..	4·38	4·93	3·09	8·67	3·26	5·30	4·24	6·67
TOTAL ..	5·78	6·22	6·74	6·52	4·64	6·13	2·95	4·79
NORTHERN:—								
Lango ..	7·92	5·14	5·74	8·00	6·37	7·61	7·71	6·07
Acholi ..	8·27	10·07	7·21	8·50	8·01	7·77	8·26	8·67
West Nile	21·83	13·89	11·57	6·43	3·31	2·73	3·42	4·83
TOTAL ..	13·08	10·16	8·10	7·50	5·77	5·58	6·06	6·11
UGANDA PROTECTORATE ..	8·08	7·98	7·15	7·69	6·19	6·31	5·65	6·00

Table 15

Table B.—Vital Statistics 1946—Uganda Protectorate.

Provinces and Districts	Totals for 1946 (Deaths)											Rates for the Year				
	Live Births			Still-Births	Children under a year			Women in Child birth	All Other Deaths	Total Deaths	Estimated Population	Birth Rate per thousand of Population	Still-births to Births and Still-births	Infantile Mortality Rate per thousand Live Births	Maternal Mortality per thousand of births and still-births	Death Rate per thousand of Population
	Male	Female	Total		Male	Female	Total									
Buganda Province—																
Mengo	6,784	6,402	13,186	115	521	448	969	111	11,774	12,854	557,212	23·87	% ·86	73·48	8·34	23·07
Masaka	3,845	4,010	7,855	36	219	231	450	21	3,165	3,636	213,977	36·38	·46	57·28	2·66	16·71
Mubende	1,018	926	1,944	56	51	21	72	8	1,193	1,273	160,690	12·44	2·8	37·00	4·00	7·87
Total	11,647	11,338	22,985	207	791	700	1,491	140	16,132	17,763	931,879	24·66	·89	64·86	6·04	19·06
Eastern Province—																
Busoga	4,860	4,657	9,517	507	703	644	1,347	111	8,373	9,831	381,020	26·31	5·05	141·49	11·07	25·80
Mbale	6,582	6,282	12,864	267	873	747	1,620	79	9,189	10,888	565,246	22·76	2·04	125·93	6·01	19·26
Teso	3,199	3,105	6,304	3	247	212	459	25	5,128	5,612	287,568	25·40	·05	72·81	3·96	22.90
Total	14,641	14,044	28,685	777	1,823	1,603	3,426	215	22,690	26,331	1,233,834	23·24	2·63	119·43	7·29	21·31
Western Province—																
Toro	3,018	2,850	5,868	207	239	205	444	51	2,827	3,322	218,358	27·82	3·41	75·68	8·39	15·21
Ankole	5,053	4,843	9,896	343	553	459	1,012	42	4,942	5,996	313,246	32·69	3·35	102·27	4.10	15·95
Kigezi	8,828	8,641	17,469	725	469	387	856	69	4,752	5,677	324,411	53·84	3·98	49·00	3·79	17·49
Bunyoro	834	836	1,670	128	48	47	95	12	1,195	1,302	119,250	14·00	7·12	56·88	6·67	10·92
Total	17,733	17,170	34,903	1,403	1,309	1,098	2,407	174	13,716	16,297	975,265	35·78	3·86	68·95	4·79	16·71
Northern Province—																
Lango	5,037	4,769	9,806	569	857	810	1,667	63	3,779	5,509	266,402	36·81	5·48	170·00	6·07	24·43
Acholi	3,853	3,802	7,655	298	794	769	1,563	67	3,023	4,653	229,169	34·70	3·75	204·11	8·67	20·30
West Nile	6,428	5,981	12,409	211	1,716	1,657	3,373	61	5,840	9,274	301,084	41·91	1·68	271·82	4·83	30·80
Total	15,318	14,552	29,870	1,078	3,367	3,236	6,603	191	12,642	19,436	796,655	37.49	3·48	221·05	6·11	24·39
Uganda Protectorate	59,339	57,104	116,443	3,465	7,290	6,637	13,927	720	65,180	79,827	3,937,633	29·55	2·88	119.60	6·00	20·26

*Districts in the Northern Province were previously incorporated in the Western Province. Karamoja District in the Eastern Province supplies no statistics.

Table 16

Showing increase or decrease of reported Births over reported Deaths for five areas for the period 1939–1946.

	Buganda			Busoga			Bunyoro			Ankole			Toro			
	Births	Deaths	+ or –	Births	Deaths	+ or –	Births	Deaths	+ or –	Births	Deaths	+ or –	Births	Deaths	+ or –	Total increase or decrease
1939	20,295	14,045	+6,250	8,070	6,571	+1,499	1,915	1,299	+616	7,752	4,611	+3,141	5,360	3,052	+2,308	+14,340
1940	19,627	16,356	+3,271	8,311	7,908	+ 403	1,809	1,161	+648	9,932	5,808	+4,124	6,156	3,721	+2,435	+10,881
1941	20,664	16,190	+4,474	8,431	8,316	+ 115	1,815	1,308	+507	8,754	7,438	+1,316	5,544	3,791	+1,753	+ 8,165
1942	24,290	25,014	– 724	7,507	10,416	– 2,909	1,831	1,384	+447	7,961	8,816	– 855	5,658	3,770	+1,888	– 2,153
1943	26,570	19,415	+7,155	6,937	8,926	– 1,989	1,711	1,364	+347	8,693	5,972	+2,721	6,174	3,416	+2,758	+10,992
1944	26,624	21,587	+5,037	1,611	7,833	– 1,722	1,561	1,134	+427	7,803	5,717	+2,086	5,581	3,007	+2,574	+ 8,402
1945	28,639	21,893	+6,736	8,578	8,133	+ 445	1,761	1,282	+479	10,791	6,572	+4,219	6,136	3,098	+3,038	+14,917
1946	22,985	17,763	+5,222	9,517	9,831	– 314	1,670	1,302	+368	9,896	5,996	+3,900	5,868	3,322	+2,546	+11,722
Total	189,694	152,263	+37,421	63,462	67,934	– 3946	14,073	10,234	+3,839	71,582	50,930	+20,652	46,477	27,177	+19,300	+77,266

Table 16 which displays the natural increase and decrease of population, in Buganda Province and the districts of Busoga, Bunyoro, Ankole and Toro reveals an over-all increase fluctuating from year to year with a general decrease in population in 1942 and a maximum increase in 1945. Only two of these districts, Bunyoro and Toro, show a constant increase over the 8 years. A decline in one or other year is revealed in Buganda and Ankole but the population of Busoga District has decreased over the whole period by approximately 4,000. Ankole and Toro Districts alone showed a constant rise in population in the 20 years prior to 1940 and this has been maintained by both districts since then save for a small decline in 1942 in the case of Ankole. Bunyoro District which according to records showed a decline in population every year between 1920 and 1934 has since that time shown a small but steady annual addition to its people. The delayed effects of famine and war are not easily discernible in the figures exhibited in the table. A closer analysis of the data available would serve no special purpose and would probably prove misleading as exact details are often lacking or in doubt.

European Officials.—In the computation of Table 17 only those officials whose names appear in the Staff List are taken into consideration. Wives and families are not included. This table shows the sick, invaliding and death rates of European Officials during the last eight years. The discontinuance of special information in respect of sick of each race during the war precludes the possibility of giving details of the sick rate etc., as these were submitted as totals of all races in the returns during the war.

TABLE 17

European Officials—Sick, Invaliding and Death rates 1940–1946.

Particulars	1940	1941	1942	1943	1944	1945	1946
Total number of officials resident ..	627	536	527	520	516	512	656
Average number of officials resident ..	547	480	463	468	457	447	597
Total number on Sick List	693	703	600	513	713	654	766
Total number of days on Sick List ..	3,992	3,861	3,213	3,494	3,825	2,088	3,115
Average daily number on Sick List ..	10·90	10·57	8·96	9·57	10·45	5·72	8·53
Percentage of daily sick to average number resident	1·99	2·20	1·93	2·04	2·29	1·27	1·43
Average number of days on Sick List each patient	5·76	5·49	5·35	6·81	5·36	3·19	4·06
Average sick time each resident ..	7·29	8·04	6·94	7·46	8·37	4·67	5·22
Total number invalided	1	1	..	8	10	8	6
Percentage of invalidings to total residents	0·15	0·18	..	1·53	1·93	1·56	0·92
Total deaths	6	..	2	..	5	2	2
Percentage of deaths to average number resident	1·09	..	0·43	..	1·09	0·44	0·33
Percentage of deaths to total residents	0·95	..	0·37	..	0·96	0·39	0·30
Number granted local sick leave ..	47	31	16	51	28	27	35
Average number of days sick leave for each patient granted local sick leave	16·68	18·83	19·62	17·23	19·75	18·25	16·80

The number of Medical Boards, with other relevant particulars, held on European Officials, in the last eight years:—

1939	7	1943	17
1940	8	1944	20
1941	9	1945	31
1942	7	1946	12

illustrates the cumulative effect of years of anxiety on the health of the community. The effect began to be plainly seen in 1943 and it became increasingly manifest until 1945, when leave to the United Kingdom again became a possibility.

(2) The twelve medical boards held in 1946 were for the following conditions.

Condition	No. of Cases	Recommendation of Board
Examination for fitness	1	Fit for sedentary work
Hyperpiesis	2	Unfit for further service.
Gastric ulcer	1	To proceed on home leave for treatment.
Duodenal ulcer	1	Unfit for further service.
Neurosis	1	To proceed on home leave.
Intestinal spasm	1	Unfit for further service.
Diarrhoea	1	To proceed on home leave for treatment.
Angina of effort	1	Unfit for further service.
Visceroptosis	1	Unfit for further service.
Tubercular glands	1	To proceed on home leave for treatment.
Laryngeal Paralysis	1	To proceed to United Kingdom for investigation.

Two deaths occurred among European officials during the year 1946—one from congestive heart failure and the other suicide. The number of deaths in the same group for previous years was:—

1940	6
1941	Nil
1942	2
1943	Nil
1944	5
1945	2

European Non-Officials treated by Government medical officers in the past year totalled 2,293, of whom 828 were admitted to hospital. Corresponding figures for the seven previous years are given below.

	1940	1941	1942	1943	1944	1945	1946
In-patients	275	201	338	756	787	882	828
Out-patients	1,714	1,901	1,619	1,239	1,393	1,946	1,465
TOTAL	1,989	2,102	1,957	1,995	2,180	2,828	2,293

Deaths among the non official European community of the Protectorate for the same period were:—

1940	9	(8 British)
1941	14	(13 British)
1942	14	(6 British)
1943	37	(5 British)
1944	41	(4 British)
1945	29	(9 British)
1946	35	(8 British)

The principal causes of death in 1946 among non-official Europeans, were—Myocardial degeneration 4, Carcinoma 9, Thrombosis of coronary arteries 2, Cerebral haemorrhage 2.

Asian Officials.—Wives and families of these officials are not included in Table 18 and precise details are not available for the computation of sick rates. The numbers resident have been compiled from the Estimates, as no Staff list for these officials was published during the war.

TABLE 18

Asian Officials—Sick, Invaliding and Deaths rates 1940–1946.

Particulars	1940	1941	1942	1943	1944	1945	1946
Total number of officials resident	333	353	324	407	427	440	459
Average number of officials resident	300	318	292	367	385	396	414
Total number on sick list	740	786	760	771	761	1,105	1,221
Total number of days on sick list	3,259	3,331	3,620	3,381	3,481	5,962	5,863
Average daily number on sick list	8·88	9·12	9·91	9·26	9·51	16·33	16·06
Percentage of daily sick to average resident	2·96	2·87	3·39	2·52	2·47	4·12	3·87
Average number of days on sick list each patient	4·39	4·24	4·76	4·38	4·57	5·39	4·80
Average sick time each resident	10·84	10·47	12·39	9·21	9·04	15·06	14·16
Total number invalided	4	8	5	2	8	3	1
Percentage of invalidings to total residents	1·20	2·26	1·54	0·49	1·87	0·68	0·21
Total deaths	3	4	2	2	..	2	2
Percentage of deaths to average number resident	1·00	1·25	0·68	0·54	..	0·50	0·48
Percentage of deaths to total number resident	0·93	1·13	0·61	0·49	..	0·45	0·43
Number granted local sick leave	27	19	13	23	18	22	25
Average number of days sick leave each patient	16·33	17·36	14·00	19·43	20·61	20·18	16·72

The number of Medical Boards held on Asian Officials was as follows:

1940	13
1941	13
1942	13
1943	7
1944	16
1945	6
1946	8

The eight boards held in 1946 were for the following conditions.

Condition	No. of Cases	Recommendation
Amoebiasis	1	To proceed to India for treatemnt
Pulmonary tuberculosis	1	To proceed to India for treatment
Asthma	1	Fit for duty.
Myocarditis	1	Unfit for further service.
Coronary thrombosis	1	Leave in India.
Otitis media	1	Leave in India.
Inflamation of eye	1	To proceed to India for treatment.
Undiagnosed	1	Leave in India and examination.

The increase in the numbers boarded, commences and reaches its climax earlier than was the case in the European community. There were two deaths recorded in 1946.

Deaths among Asian Officials during the last seven years are as under:—

1940	3
1941	4
1942	2
1943	2
1944	2
1945	2
1946	2

Asian non-officials.—The total of deaths recorded numbered 223.

The chief causes of death were:—

Malaria	40	Heart failure	20
Blackwater fever	14	Pulmonary tuberculosis ..	7
Typhoid fever	2	Meningitis	7
Fever (?)	9	Diabetes	4
Pneumonia and broncho-pneumonia	21	Carcinoma	5
Nephritis	4	Injuries	11

In the previous six years, the number of deaths recorded in the non-official Asian community was as follows:—

1940	230
1941	213
1942	221
1943	198
1944	212
1945	218
1946	223

African Officials.—Accurate statistics in respect of African Officials are not available, and the publication of a staff list for this group of employee has not yet been attempted. The totals in the service have been obtained from the Estimates of the Protectorate.

TABLE 19

African Officials—Local Civil Service.

Particulars	1940	1941	1942	1943	1944	1945	1946
Total number of officials resident ..	1,301	1,172	1,043	1,192	1,322	1,391	1,582
Average number resident	1,301	1,172	1,043	1,192	1,322	1,391	1,582
Total number on sick list	85	60	39	48	65	49	85
Total number of days on sick list ..	225	232	116	264	118	179	251
Average daily number on sick list ..	0·61	0·63	0·32	0·72	0·32	0·49	0·68
Percentage of daily sick to average number resident	0·04	0·05	0·03	0·06	0·02	0·03	0·04
Average number of days on sick list for each patient	2·65	3·87	2·97	5·50	1·82	3·65	2·95
Average sick time each resident ..	0·17	0·19	0·11	0·22	0·09	0·13	0·16
Total number invalided	..	5	2	..	..	..	..
Percentage of invalidings to total resident	..	0·42	1·91	..	..	..	..
Total deaths	..	..	..	..	..	..	2
Percentage of deaths to total residents	..	..	..	..	..	..	0·12
Percentage of deaths to average number resident	..	..	..	..	..	..	..
Number granted local sick leave ..	..	2	2	No record	No record	1	4
Average number of days sick leave each patient granted sick leave ..	..	17·50	22·50	No record	No record	31·00	40·50

SECTION III.—HYGIENE AND SANITATION

1. Preventive Measures.

Reference has been made to the work achieved during the war period under the principal headings. Preventive measures against insect borne diseases have been directed principally against mosquitoes. The routine has been to eliminate collections of water by filling in depressions. Where this has not been practicable oiling or stocking with fish (Lebistes) has been practised. The extension of plantations in swampy areas has been continued effectively in co-operation with the Forestry Department and legal steps have been taken where necessary to prevent the recurrence of mosquito nuisances. Anti-malarial and anti-amaryl measures are practised under close supervision in and around all townships.

The control of relapsing fever includes drastic measures for the eradication of the tick, *O. moubata*, but the adoption of practical steps other than that of building in permanent material is difficult. No insecticide used in ordinary strength has yet been found fully effective against this tick.

Infectious diseases are dealt with as the need arises in the time honoured fashion by isolation, segregation of contacts, disinfection and prophylactic inoculation where practicable. The principles are sound, but are often difficult to implement effectively. It has been remarked that for some reason unconnected apparently with the potency of the lymph, vaccination against smallpox has little effect in checking the epidemic of variola minor which has now continued for several years in Uganda. Mass vaccination has therefore been discontinued although all children continue to be vaccinated in most districts as are all possible contacts.

Helminthic infestations are common in most areas, intestinal parasites being the chief of these. No great disability appears to result from their presence in the majority of cases. Heavy infestations with round worm, tapeworm or hookworm are treated in most hospitals and dispensaries. Stress is laid on latrine construction in propaganda and wherever practicable meat inspection is carried out in village butcheries. Against schistosomiasis and dracontiasis, the latter occurring principally in the arid areas of the north, protection of village water supplies, denuding the banks of pools and slow running streams of vegetation and the periodical removal and destruction of snails are routine measures. The realignment of streams in the West Nile and the use of malachite and other chemicals have been tried with varying results.

2. Propaganda.

There is still much ignorance in regard to the aetiology of disease among many tribes and the conception of witchcraft and malign influences widely prevails. Propaganda is directed against the barriers of ignorance and harmful prejudices and customs. In this connection the services of the African assistant health inspectors are of great importance. Candidates for training as assistant health inspectors are selected from every district in the territory, preference being given latterly to those from what are regarded as backward areas, where superstition and prejudice are rife. After training, these inspectors are sent to their own districts wherever possible. Propaganda is more credible to a primitive people and more effective in its results when it comes from one of their own tribe. This is especially so when age old customs and taboos are involved.

The dissemination of information concerning hygiene, sanitation, housing and prevention of disease is an integral part of the duties of all trained medical staff—medical officers, nursing sisters, health inspectors, etc.,—all of whom seldom lose an opportunity of spreading knowledge of their subjects in urban and rural areas.

The venue commonly selected as affording the largest attentive audience is a "lukiko" (or meeting) of the chiefs and people, or a school during term. Dispensaries, maternity and child welfare clinics and periodic assemblies of the people for various purposes are also used. Meetings are sometimes announced for a specified date but impromptu addresses are also delivered at casual gatherings. The size of the audience is not a matter of importance. Informal talks may be given to a chief and his retainers round a camp fire, to a householder and his family in an unobtrusive manner in the course of normal conversation, with excellent effect. Invitations have sometimes been received from chiefs and schoolmasters to deliver lectures on hygiene and sanitation in general in connection with some special local problem of their district. In the backward districts there is little doubt that much of the seed falls on stoney ground but precept, practice and above all constant and regular reiteration tend gradually to break down the barriers of custom, superstition and prejudice. Regular courses of instruction in elementary hygiene and sanitation have been given at Trade and Technical Schools, created under the Reabsorption Scheme, and at agricultural and other centres. Systematic courses have also been conducted for rural assistants and students of the Social Welfare Organisation, and material has been supplied to this latter organisation on a variety of health topics, as a basis for health plays and dialogues to be presented to African audiences. Regular instructional talks have been given by request to the assembly of chiefs and people's representatives at the Central Lukiko in Mengo.

Hygiene, taught in the vernacular and in English, has for the past few years been a subject in the syllabus of Primary and Secondary Schools, and in one district the co-operation of the Social Welfare Officer has been enlisted to expand and confirm the work of the Health Staff.

Visual propaganda also has its place in the spread of the knowledge of hygiene. The press, European and vernacular, is supplied with inspired articles from time to time, sometimes in response to requests from correspondents for information and sometimes as informed replies to grossly inaccurate statements which have appeared.

Posters have been employed for display in public places, at administrative centres and in rural areas, in prominent positions such as chiefs' headquarters, markets, etc., and at all hospitals and dispensaries.

This form of propaganda is of limited value and application in areas where the vast majority of both men and women are illiterate. It has been observed in certain localities that pictures and especially enlargements convey no conception of reality to the untutored mind. It has been demonstrated beyond doubt in several instances that a magnified representation, of an insect vector of disease, is so great a deviation, in point of size, colour or perspective from the actual specimen, that it imparts no mental association or connection between the two. The impression left, by the symmetry of the diagram alone, is that it is a design. The Ornithodorus tick or tsetse fly in diagrammatic print has been frequently demonstrated by close questioning to represent nothing more for instance than a design for a shield, in the mind of the simple countryman. To those with a smattering of literacy it is too great a mental effort to spell out laboriously, syllable by syllable, the message conveyed on a placard. Though in general use, the utility of the poster is limited at present to a relatively small section of the native population. For effectiveness, the poster should be designed in striking fashion, with violent colour contrasts. As few explanatory words as possible should be employed to impart the message intended, and these should be arresting in character.

The cinematograph has also been requisitioned for purposes of propaganda. A film dealing with Syphilis was exhibited, at certain centres in Kampala, to male congregations at the Police Training Cantonment and to medical staff at the African hospital.

Model houses with kitchens, latrines and ablution rooms have been erected in several centres, for demonstration purposes. These full scale models have been constructed of materials locally procurable and in common use by the villagers. The space requirements of living rooms and their ventilation and lighting are illustrated in each building. For a period the building is put on show to the public, with an African Health Inspector in attendance, at set periods, to explain its salient features and advantages to all who show interest. It is later handed over for occupation to one of the staff, who is instructed to exhibit the premises to all enquirers.

A novel form of propaganda was tried out in Kigezi district. A competition in housekeeping, open to the families of the indigenous population was introduced. The factors taken into consideration in the assessment of marks, for merit and the award of prizes, were the quality and condition of the house, kitchen and latrine, the sanitary state of the premises and the cleanliness and the health of the household. A judging committee, including ladies, was appointed and prizes distributed. Considerable interest and enthusiasm were stimulated among a large number of competitors, and the competition was reported as having been an undoubted success. The chief of the area asked that it be continued and extended to embrace a larger area.

SECTION IV.—PORT HEALTH WORK

Lake Ports.—Routine work in connection with lake shipping is delegated to subordinate medical personnel because the majority of the ports are situated at no little distance from district headquarters, and are of no great size.

Air Ports.—There are many emergency landing grounds scattered over the Protectorate, but only one—Entebbe—is of any importance in respect of size or frequency of use as a port of call. A seaplane base is situated at Port Bell near Kampala, and a fuelling base on the Nile at Laropi. The requirements of the International Sanitary Convention in respect of Yellow Fever, are implemented to the fullest extent possible.

The number of aircraft, which alighted at Port Bell and Entebbe, almost invariably with a full complement of passengers, was 393 and 261 respectively. At Laropi 320 refuelled.

The increase in recent years in the use of the facilities offered at the Entebbe airport is demonstrated by the following figures of incoming aeroplanes.

1941	128
1942	112
1943	115
1944	77
1945	257
1946	261

From the middle of 1944 onwards aerosol insecticide bombs replaced the aerograph spray, in the disinsectisation of all aircraft. No aedes mosquitoes were reported, following disinfestation, in any aircraft.

SECTION V.—MATERNITY AND CHILD WELFARE

The total number of women who attended Government Maternity and Child Welfare Centres in 1946 was 83,016; of these 41,668 women attended for the first time. As indicated elsewhere difficulties of transport led to a restriction of supervision at some centres and the closure of other centres in remote areas with a resultant decrease in the total numbers attending as compared with previous years. Attendances continue to be satisfactory, however, and in those centres supervised by nursing sisters expansion continues. In addition, increasing numbers of women are seeking hospital facilities for their confinements, there being 10,398 deliveries in Government hospitals during 1946 compared with 8,482 in 1945.

Table showing the number of women attending at Government Maternity and Child Welfare Centres in various districts, during 1946:—

TABLE 20

Hospital	New cases	Attendances
Mulago	1,981	9,445
Masaka	6,503	10,556
Mubende	610	1,222
Entebbe	1,603	4,512
Mengo	3,315	5,969
Jinja	857	2,313
Tororo	1,375	3,103
Mbale	11,390	18,048
Soroti	1,526	2,682
Namasagali	293	293
Gulu	283	575
Arua	47	35
Kitgum	110	..
Lira	1,984	2,154
Moyo	4	..
Moroto	22	228
Masindi	287	1,665
Hoima	544	2,088
Fort Portal	2,250	3,321
Mbarara	4,913	10,265
Kabale	1,771	4,542
TOTAL	41,668	83,016

Of 21,857 attending for ante-natal supervision 8,928 were delivered in hospital and dispensaries. There was also 1,470 confinements conducted in these institutions, of women who had not attended during pregnancy. The results of these pregnancies in the case of women delivered in hospital and at home are shown in Table 21. In the latter case, some difficulty has generally been experienced or anticipated by the patients before medical assistance was called in.

The following table gives the results of pregnancy for women who were confined in Government institutions, and as far as they are known, for women who were confined in their own homes. It also includes the number of women who had not attended for ante-natal supervision but were confined in hospitals or maternity centres, together with the results of their confinements:—

TABLE 21

	Women under ante-natal supervision		Women not under ante-natal supervision delivered in institutions
	Confined in Government institutions	Confined in their homes	
Number of women confined	8,928	12,929	1,470
Pregnancies resulted in:—			
(*a*) Miscarriage	265	25	179
(*b*) Still-birth	290	21	115
(*c*) Living child	5,615	82	1,010
(*d*) Unknown	..	6,608	..
Number of maternal deaths	93	Unknown	15
Percentage of pregnancies resulting in:—			
(*a*) Miscarriage	2·9	0·39	12·1
(*b*) Still-birth	3·2	0·33	7·8
(*c*) Living child	62·8	1·31	68·7
(*d*) Maternal deaths	1·0	..	1·0

The following table shows the number of confinements in the principal Government hospitals:—

TABLE 22

Institution	Confinements excluding Miscarriages	Still-Births	Living Births	Maternal Deaths
Mbarara	452	17	435	10
Jinja	263	40	223	..
Kabale	230	43	187	3
Masindi	68	2	66	4
Hoima	51	2	49	..
Lira	106	..	106	3
Tororo	54	..	54	1
Namasagali	82	..	82	1
Entebbe	511	25	486	4
Masaka	961	35	926	24
Mbale	692	54	638	20
Gulu	100	5	95	4
Soroti	329	16	313	13
Mulago	430	11	391	10
Fort Portal	230	9	221	26

The following obstetric operations were performed:—

TABLE 23

Caesarian section	36
Forceps delivery	172
Perforation and cranioclasm	32
Internal version	33
Removal of retained placenta	116

The advantages of bringing apparently healthy children to a clinic for regular examination are not as yet generally appreciated, though the number of children brought to the Welfare Clinics is gradually increasing. In the majority of instances infants are brought to the centres for some minor ailments, or their presence is incidental to accompanying their mothers who are seeking treatment.

The number of children attending certain Government institutions, where child welfare work is a regular feature, are tabled below:—

TABLE 24

Institution	Number of infants	Attendances
Entebbe	92	190
Fort Portal	2,640	4,872
Tororo	53	324
Lira	2,844	3,335
Hoima	445	2,321
Masindi	84	..
Arua	1,008	1,528
Jinja	365	749
Mbarara	3,952	9,184
Mbale	2,347	94
Gulu	103	381
Soroti	6,012	9,682

No useful deductions can be drawn from the figures available on this subject as, during the war years normal routine was disturbed and many records are incomplete, or very briefly and generally summarised.

Report on Lady Coryndon Maternity Training School.—This school is supervised by the Church Missionary Society and trains Nurses and Midwives. Since its inception in 1918, 292 midwives have qualified from this centre. In 1946, there were 44 student midwives in training. 21 passed the qualifying examination of the Uganda Midwives Board, and 14 were absorbed into Government service.

Subject to limitations of transport and staff, the Maternity Centres connected with Mengo C.M.S. Hospital have continued the work of previous years. There are seven of these centres working at present, six being in Buganda and one in Busoga. An eighth centre at Jungo which had been handed over to Government, was closed and returned to the Mission early in the year. The centre at Kapeka has been rebuilt nearer to the village of the same name. A new permanent building and a spacious house for African staff, together with kitchens, stores, latrines and concrete rain water tanks have been erected on the new site. The move temporarily reduced the number of patients attending at this centre, but the numbers are now increasing again. The removal in 1946 of many of the restrictions on transport, greatly facilitated supervision at the centres maintained by the C.M.S. Mission.

Nsambya Maternity Training School.—This school is conducted by Sisters of the Order of St. Francis and has been training African girls in General Nursing and Midwifery for some years. Many of their successful candidates enter Government service. The two courses are separate and students may elect to take either. Of late years there has been a tendency to take both courses and become doubly trained. This is encouraged as it increases the efficiency and reliability of those qualifying. Of a total of 82 students in training this year, 42 were studying Midwifery and 40 General Nursing. 23 candidates entered for the examination of the Uganda Midwives Board, and 21 passed. 12 accepted employment in Government service. In 1944 a Preliminary Training School was started for all candidates for the courses.

The progress of the school has been gradual but perceptible since 1940. Up to 1943, students taking the course in General Nursing were taught in English. This debarred many promising candidates from entering and since 1944 they have been taught in the vernacular, with most satisfactory results. An average of 62 entrants for training as nurses and midwives have been taken on each year since 1940. The table shows the numbers who were successful.

Courses	1940	1941	1942	1943	1944	1945	1946
General Nursing ..	..	3	..	4	4	4	..
Midwifery	8	7	5	8	14	9	21
TOTAL ..	8	10	5	12	18	13	21

Many improvements have been effected to Nsambya Hospital in the course of the last seven years. The operating theatre has been rebuilt and a sterilising room added. An Indian ward with private rooms and modern sanitation has been opened. A block of bathrooms and latrines has been erected for students, and staff nurses quarters have been renovated.

The general health and weight of babies attending the Infant Welfare Clinic at Nsambya continues to improve as does the sense of responsibility of the mothers, as shown by their cleanliness and their concern for the formation of good habits in their children.

The number of new ante-natal attendances in 1946 was 1,589 and deliveries in the hospital numbered 829. A considerable number of abnormalities continue to be attended. 48 Caesarean sections were performed.

Particulars of patients who were admitted to this institution during 1946 are as follows:—

Total admissions	1,324
Total confinements (excluding miscarriages)	829
Miscarriages	57
Threatened miscarriages	106
Still-births	46
Live births	783
Maternal deaths	10
Infant deaths	37

The following operations were performed:—

Caesarean section	48
Forceps delivery	49
Craniotomy	9
Internal version	3
Removal of retained placenta	21
Perineal repair	24

TABLE 25

Report on Church Missionary Society Maternity and Child Welfare Centres.

District	Centre	Confinements including Still-Births	Still-Births	Live Births	Miscarriages	Threatened Miscarriages	Other conditions	Maternal Deaths	Infants Deaths	New ante-natal cases	Infant Welfare	Total Out-patient attendances
Mengo	Lady Coryndon Maternity Training School	450	45	405	35	112	147	18	33	861	..	2,769
Masaka	Kabuwoko	215	7	208	5	48	..	1	2	1,119	..	4,118
Mengo	Kapeka	121	3	118	3	10	..	..	2	771	..	1,955
Mengo	Lutete	157	12	145	14	32	..	..	12	976	..	349
Mengo	Mukomo	122	10	112	8	25	..	1	1	671	..	2,002
Mengo	Nakifuma	171	6	165	15	28	..	..	3	936	..	2,868
Mengo	Ngogwe	179	10	169	11	33	..	..	..	648	..	3,226
	TOTAL ..	1,415	93	1,322	91	288	147	20	53	6,018	..	20,432

TABLE 26

Report on Nsambya Mission District Maternity and Child Welfare Centres.

No.	District	Centre	Confinements including birth before admission but excluding miscarriages	Still-Births	Live Births	Miscarriages	Threatened miscarriages	Other conditions	Maternal Deaths	Infant Deaths	New ante-natal cases	Infant Welfare	Total Out-patient Attendances
1	Mengo	Rubaga	147	5	142	12	28	20	..	6	390	52	1,606
2	Mengo	Kisubi	114	6	108	10	6	72	..	..	436	..	1,396
3	Mengo	Namilyango ..	104	..	104	4	..	..	..	..	254	60	1,369
4	Mengo	Nagalama	95	2	93	8	6	8	..	1	195	..	630
5	Mengo	Nkokonjeru ..	154	1	153	8	17	32	..	2	314	296	1,977
6	Mengo	Nyenza	94	5	89	1	4	..	..	1	307	401	2,533
7	Mengo	Gayaza	167	1	166	7	18	24	..	4	486	55	3,253
8	Mengo	Namuganga ..	127	1	126	5	3	..	..	..	323	..	966
9	Mengo	Katende	257	6	251	9	2	..	2	..	631	..	2,545
10	Masaka	Bikira	186	8	178	8	29	4	..	..	633	..	2,181
11	Masaka	Villa Maria ..	396	6	390	21	58	103	1	13	1,088	..	6,328
12	Masaka	Mitala Maria ..	391	8	383	24	47	8	..	8	1,247	..	2,963
13	Busoga	Iganga	78	6	72	5	37	28	3	9	727	102	2,249
14	Busoga	Budini	175	5	170	8	3	14	3	..	1,101	..	5,050
15	Busoga	Kamuli	316	14	302	28	87	150	..	12	1,709	530	10,115
16	Mbale	Palissa	31	2	29	6	12	..	..	5	222	..	772
17	Mbale	Dabani	39	2	37	1	..	..	..	1	94	..	234
18	Bukedi	Nagongera	72	6	66	4	14	14	..	..	475	25	1,178
19	Teso	Ngora	92	3	89	1	25	15	..	..	373	25	1,240
20	Teso	Lwala	116	3	113	8	36	3	..	..	457	..	6,977
21	Teso	Madera	22	..	22	..	..	..	..	..	130	..	282
		TOTAL ..	3,173	90	3,083	178	432	499	9	62	11,592	1,546	55,844

SECTION VI.—HOSPITALS AND DISPENSARIES

Information regarding the number of hospitals of different categories, the number of beds available in each, with the number of in and out patients treated is given in Table 27 by provinces and for the Protectorate as a whole.

TABLE 27

Medical Units, Beds and Patients by Province.

	BUGANDA PROVINCE	EASTERN PROVINCE	WESTERN PROVINCE	NORTHERN PROVINCE	PROTECTORATE TOTALS
Medical Units					
European Hospitals ..	2	2	..	..	4
Asian Hospitals ..	1	1	..	..	2
African Hospitals ..	7	6	5	5	23
Dispensaries	36	22	37	36	131
In-Patients					
BEDS AVAILABLE:					
Europeans	52	9	1	..	62
Asians	60	32	7	..	99
African—Hospitals ..	1,117	605	354	285	2,361
African—Dispensaries ..	132	454	246	85	917
TOTAL ..	1,361	1,100	608	370	3,439
CASES ADMITTED:					
European	1,322	49	3	2	1,376
Asian	1,491	844	73	16	2,424
African	27,300	27,009	11,200	11,891	77,429
TOTAL ..	30,113	27,902	11,276	11,909	81,229
TOTAL NUMBER OF IN-PATIENT DAYS	402,052	245,797	112,392	92,761	853,002
Out-Patients					
Attendances	1,350,811	1,100,898	1,147,736	1,026,581	4,626,026
TOTAL NEW CASES					
European	2,176	400	245	185	3,006
Asian	4,163	7,322	1,069	363	12,917
African	170,529	285,278	107,483	132,829	696,119
TOTAL ..	176,868	293,000	108,797	133,377	712,042
DISPENSARIES TOTAL ..	281,351	273,283	318,210	300,927	1,173,771
MEDICAL EXAMINATIONS	8,626	9,353	10,402	8,346	36,727
GRAND TOTAL ..	466,845	575,636	437,409	442,650	1,922,540

SECTION VII—A. PRISONS

Protectorate Government Prisons.—In replacement of old and unsuitable buildings new prisons have been constructed in several district stations. These have been designed with cells, stores, workshops, offices, etc., backed against a high surrounding wall and opening into a central square. Table 28 shows the average number of inmates daily sick attendances, hospital admissions and deaths for each Protectorate prison.

TABLE 28

Local	Daily average	Daily average on sick list	Admissions in Hospital	Deaths
Central Prison	999	8·90	467	15
Prison Farm	236	4·63	52	3
Arua	92	·90	17	1
Fort Portal	16	·27	4	..
Gulu	97	2·00	72	2
Jinja	99	·42	154	..
Lira	144	2·00	48	1
Masaka	56	2·00	64	1
Mbale	110	3·00	95	4
Masindi	106	4·10	43	2
Mbarara	87	1·87	22	1
Moroto	67	4·00	37	1
Soroti	59	·05	28	3
TOTAL ..	2,168	34·14	1,103	34

Malaria, tropical ulcer, minor injuries and diseases of the respiratory system continue to be the most prevalent causes of illness. There were 34 deaths in these institutions. The causes of death were:—

Cardiac failure ..	5	Peritonitis	1
Cerebral malaria ..	2	Pneumonia	4
Cerebral syphilis ..	1	Pulmonary abscess ..	2
Cerebral haemorrhage	1	Respiratory failure following epileptic convulsion	1
Dysentery	2	Septic arthritis ..	2
Enteritis	2	Septicaemia	1
Hepatitis	1	Suicide	1
Malaria	2	Typhoid fever ..	1
Meningitis	5		

Central Prison, Luzira.—The Protectorate Prison at Luzira comprises two separate institutions, the old prison for recidivists and the new for non-recidivists. The former lacks water-borne sanitation and is sanitarily deficient in many respects. The accommodation for female prisoners leaves much to be desired, exercising space and adequate shelter from the elements being lacking. Overcrowding in association cells of the old jail for African prisoners is considerable and unlikely to be relieved until the accommodation for this class of prisoner is extended. A new kitchen of satisfactory design has been built and the old kitchen converted into bath houses. The housing of warders and their families at Luzira is unsatisfactory in the extreme and recommendations have been submitted for the provision of entirely new quarters.

Reference was made in the report for 1945 to the high incidence of pneumonia and bronchitis among prisoners in this gaol. The annual rates of these affections appear to be closely related to the fluctuations in overcrowding from year to year. This is shown in the figures given below.

	1940	1941	1942	1943	1944	1945	1946
Average daily Inmates	942	914	858	910	945	1,122	999
Pneumonia and Bronchitis rate per 1,000 ..	25·5	20·8	12·8	33·0	41·3	75·7	36·0
Number of deaths ..	8	6	5	5	11	21	14

The congestion has been relieved to some extent by bringing into use the new prison for non-recidivists and the opening of a Prison Farm at Kitalya in Buganda.

21 cases of xerophthalmia and 11 of xeroderma occurred between Janaury and April when green foodstuffs were scarce.

Native Administration Prisons.—Steady progress is being made in improving the sanitation of these institutions. Medical officers and assistant medical officers pay regular visits of inspection to these prisons and draw attention to remediable defects in sanitation, structure and diet. A gradual improvement has been observed in the cleanliness of these prisons but there is still room for considerable improvement in both accommodation and the quality of food supplied. Seasonal difficulties are encountered in supplying full diets.

SECTION VII.—B. MENTAL HOSPITALS

Mental Hospital, Mulago.—The asylum for mental patients of the Protectorate is situated on Mulago Hill in proximity to the African hospital. The buildings are of permanent materials and provide accommodation for 114 male and 54 female, a total of 168 patients. There has been no change in the accommodation provided, since 1940. The staff of the establishment consists of one European superintendent, one European male and one European female nurse and 111 African attendants, 69 of whom are male and 42 female. A further 19 employees work as cooks, porters, etc.

The number of inmates at the end of the year was 324, comprising 230 males and 94 females (the daily average in residence being 315, composed of 223 males and 92 females) classified as follows:—

	Male	*Female*
Idiots and imbeciles	20	10
Presumably recoverable	30	8
Chronic and presumably irrecoverable of whom there are—		
(*a*) Turbulent and dangerous ..	30	15
(*b*) Suicidal	4	3
(*c*) General paralytics	20	5
(*d*) Able-bodied not included in (*a*) above	126	53
	230	94

Admissions (including re-admissions) to the institution numbered 123 males and 29 females, a total of 152 during 1946. The re-admissions numbered eight, two being admitted first as civil and later as criminal patients, a matter of transfer in the registers. One male patient was readmitted twice for observation, but was discharged on both occasions as uncertifiable. The number of patients discharged was 84, of which 68 were men and 16 women; 52 died, 42 of these males.

For ease of reference the information given above is detailed below in tabular form in Table 29.

TABLE 29

Particulars	Male	Female	Total
1 FIRST ADMISSIONS			
Civil	111	26	137
Criminal	5	2	7
TOTAL	116	28	144
2 RE-ADMISSIONS			
Civil	3	1	4
Criminal	4	..	4
TOTAL	7	1	8
3 TOTAL ADMISSIONS			
Civil	114	27	141
Criminal	9	2	11
TOTAL	123	29	152
4 DAILY AVERAGE ON REGISTER			
Civil	176	78	254
Criminal	37	14	61
TOTAL	213	92	315
5 DISCHARGED			
Civil	52	13	65
Criminal	16	3	19
TOTAL	68	16	84
6 PERCENTAGE OF DISCHARGED ON DAILY AVERAGE NUMBER			
Civil	29·54	16·66	25·59
Criminal	34·04	21·42	31·16
TOTAL	30·49	17·39	21·66
7 DEATHS			
Civil	40	9	49
Criminal	2	1	3
TOTAL	42	10	52
8 PERCENTAGE OF DEATHS ON DAILY AVERAGE NUMBER			
Civil	22·72	11·54	19·29
Criminal	6·38	7·14	6·55
TOTAL	19·28	10·86	16·82

No European cases were admitted during the year. Because of the location and the paucity of staff it is considered undesirable to admit European mental patients to this hospital except for short periods preparatory to transfer to Nairobi, Kenya.

Four male and two female Asians are included in the present general total of inmates.

1,074 cases were treated for the following incidental conditions during 1946:—

Cough	300	Scabies	6
Coryza	8	Jiggers	4
Asthma	3	Boils	8
Pulmonary tuberculosis	3	Abscess	12
Pneumonia	4	Ulcers	46
Constipation	12	Cellulitis	5
Colic	29	Myalgia	96
Dyspepsia	4	Pyomyositis	1
Diarrhoea	14	Local injuries	61
Dysentery	33	Human bites	12
Jaundice	2	Sprain	4
Anaemia	4	Dislocation	1
Malnutrition	7	Fractures	11
Syphilis (secondary)	1	Ankylosis	1
Neurosyphilis	26	Arthritis	1
Epiplepsy	35	Epididymitis	1
Paraplegia	3	Hydrocele	1
Amaurosis	4	Fistula	2
Trachoma	4	Oedema	22
Conjunctivitis	7	Malaria	183
Otitis media	6	Cerebro-spinal meningitis	1
Nephritis	2	Headache	72
Debility	32		

The cause of death in 52 instances was:—

Neurosyphilis	33	Pneumonia	3
Advanced anaemia	3	Brain atrophy	1
Malnutrition	1	Pulmonary tuberculosis	1
Lung Abscess	1	Status epilepticus	1
Senility	3	Toxaemia	1
Amoebiasis	3	Arterio-sclerosis	1

Shock therapy with injections of Leptazal and Phrenazal has been employed in selected cases with the following results:—

	No.	%
Treated	44	
Recovered	15	34
Improved	16	36
No change	13	30

An apparatus for electrical convulsant therapy is now on order.

No mechanical restraint is imposed on the patients.

Occupational therapy in the form of gardening and carpentry are practised and various domestic duties such as ward cleaning, kitchen and laundry works, and the mending of clothes are carried out by the patients. The average daily numbers employed in this manner was 203 in 1946, being equal to 62% of the total inmates.

Adequate facilities for recreation are provided. Football is played twice a week by a small number of selected patients. Gramophone programmes are given daily in both sections of the hospital. Suitable modifications of the programme are made for the different categories, and, as far as can be ascertained, the music is greatly appreciated by the patients. "Mweso" boards, are placed in three of the male wards and many patients play this native game regularly. Religious services are held weekly by the Anglican church, the average attendance being 36, a third of these being females.

The period 1940 to 1946 was marked by increasing overcrowding, no extensions to the original accommodation having been made, during the war years. The provision of additional space for the inmates is an urgent requirement and is included on the programme of constructional work to be carried out in the immediate future. It includes shelters for use in inclement weather, and workshops for the practice of occupational therapy. The European nursing staff has also been increased recently but the medical needs of patients are still met by the staff of Mulago General Hospital which adjoins the mental hospital. Provision for a full-time Alienist is included in the 1947 estimates.

The diets are adequate in quantity, quality and variety, and are supplemented, as necessary, by the produce of the hospital garden. Special diets are supplied to those who need them. No cases of deficiency disease have been recorded among the older inhabitants of the institution, but a few new admissions have required attention for malnutrition.

The institution has been singularly free, during recent years, of epidemic disease despite overcrowding. Cases of malaria, dysentery and diarrhoea which occur in large numbers in the records have not been confined to a short period or been part of a fulminant outbreak, but have been spread over the whole year. The incidence of these diseases conforms generally to the seasonal prevalence of these afflictions among the general public.

Relevant statistics covering the period 1940 to 1946 are tabulated below :—

TABLE 30

Statistics of Mental Hospital, Mulago.

Year	Average Daily No. on Register			Total No. remaining at end of year			Admissions			Discharges			Deaths		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
1940 ..	124	50	174	138	50	188	78	14	92	32	9	41	29	4	33
1941 ..	142	58	200	153	68	221	109	24	133	51	6	57	45	1	46
1942 ..	166	72	238	186	73	259	129	28	157	62	12	74	34	9	43
1943 ..	197	75	272	196	73	269	110	25	135	23	9	32	30	3	33
1944 ..	203	75	278	204	73	277	118	28	146	58	22	80	53	6	59
1945 ..	210	83	293	217	91	308	131	38	169	64	15	79	54	5	59
1946 ..	223	92	315	230	94	324	123	29	152	68	16	84	42	10	52
Annual Averages	180·7	72·1	252·8	189·1	74·6	263·7	114·0	26·6	140·6	51·1	12·7	63·8	41·0	5·4	46·4

There has been an irregular increase of patients in the past few years among both sexes, males being more than twice as numerous as the females, though the latter predominate in the statistics of the general population.

SECTION VIII.—A. MEDICAL SCHOOL, MULAGO

The medical school which was begun as an experiment, with the object of training Africans as assistant medical officers, under the aegis of the Uganda Medical Department is still staffed by Departmental officers. An acting Dean, responsible for the arrangement of the medical course and the general supervision of the students, was appointed in 1945. The Dean acts as Secretary to the Board of Studies, a committee composed of lecturers in the different subjects of the medical curriculum, and is a member of the Academic Board of Makerere College. The Board deals with matters relative to the College courses, submitted to it by the boards of studies of the various departments. With the passage of the years and particularly in 1945 and 1946, certain innovations have been introduced into the courses. A stronger bias is now given to the practical as opposed to the theoretical training of students and it is considered that the assistant medical officer, who qualifies at the school now, is greatly superior to his confrere of a decade ago.

It has been the practice of the Examining Board to appoint extramural examiners with special knowledge of their subjects from neighbouring territories. The war presented opportunities which were fully exploited in this respect and the services of specialist officers of the R.A.M.C., were regularly obtained at examination time.

The number of students classified by tribes, from the East African Territories, in each of the four years of clinical training at Mulago, is given below in tabular form, for the year 1946.

Table showing Students in training at Mulago in 1946 :—

TABLE 31

Year	Total	UGANDA						TANGANYIKA				KENYA			ZANZIBAR	
		Buganda	Busoga	Batoro	Bagishu	Banyuli	Acholi	Nyakyusa	Muhaya	McHagga	Mbulu	Luo	Muluhya	Kikuyu	Arab	Swahili
VI ..	10	6	1		..	..	..	1	..	..	..	..	1	..	..	1
V ..	5	..	..	..	..	..	..	1	..	..	1	3	..	..	..	..
IV ..	8	2	..	..	..	..	1	..	1	..	..	1	1	1	1	..
III ..	12	4	2	2	1	1	..	..	..	1	..	1	..	..	..	..
	35	12	3	2	1	1	1	2	1	1	1	5	2	1	1	1

The number of medical students who passed the final examination and qualified for the Diploma in Medicine of East Africa, each year from 1940 onwards are tabulated below :—

TABLE 32

	1940	1941	1942	1943	1944	1945	1946
Uganda	4	4	3	1	3	5	3
Kenya	1	1	..	3	..	..	..
Tanganyika ..	..	1	1	1	..	..	1
Zanzibar	..	..	..	..	1	..	1
TOTAL ..	5	6	4	5	4	5	5

The external examiners in 1946 were:—

Mr. V. Braimbridge, M.B., Ch.B., F.R.C.S. (*Surgery and Anatomy*).
Dr. R. B. Preston, M.B., B.S., M.R.C.O.G. (*Obstetrics and Gynaecology*).
Mr. D. A. Skan M.R.C.S., L.R.C.P., D.T.M.&H. (*Forensic Medicine and Pathology*).
Dr. A. W. W. B. Woods, M.R.C.P., B.M.B.Ch. (*Medicine*).
Dr. Fairfax Bell, B.M., B.Ch., D.T.M.&H. (*Pharmacology*).

SECTION VIII.—B. CIVIL REABSORPTION ORGANISATION

Civil Reabsorption of ex-service Medical Orderlies.—Facilities have been provided, under the Uganda Reabsorption scheme, for the further training of demobilised soldiers who have served in medical units. Schools for this purpose have been opened at Mbale, Masaka and Lira. The capacity of each of these schools is limited to approximately 50 entrants for each course, so that there is inevitably a large waiting list. For the convenience of those awaiting admission, to avoid hardship and to secure continuity in practical instruction, a quota of vacancies has been allotted to each district hospital in the country and demobilised soldiers are offered immediate engagement at the district hospital preparatory to entry into the schools. Elementary training in nursing and first aid with simple instruction in diagnosis and treatment for selected candidates comprises the basis of the syllabus of the course.

Mbale.—This school is under a European health inspector, who trains pupils in practical hygiene. His staff consists of two African health inspectors, a carpenter and a bricklayer-instructor. A full course in hygiene and sanitation is given and it is expected that a high grade of hygiene orderly, who will be useful in rural areas, will be produced. The buildings taken over by this unit had been erected originally as a school for Nursing Orderlies and Nurses. It began work in August 1946 and the first batch of trained men are expected out in November 1947.

Lira Medical Training Centre—is under a medical officer with army experience, assisted by a sister tutor and two African assistant instructors of the Medical Assistant grade. Ex-Army nursing orderlies are given further tuition here and the more intelligent among them are trained to a higher standard to enable them to qualify as medical assistants. The Centre commenced work in September 1946. 52 trainees were enrolled in the first term but seven of these were returned to their homes, as unsuitable for further training. 15 who showed interest and aptitude are in the Medical Assistant class.

Masaka.—The medical training at this centre is conducted on the same lines as that at Lira, and caters for candidates from Buganda and the western portion of the territory. The medical officer in charge has also a record of military service. The centre commenced work late in August 1946 with 53 trainees on the roll, and a staff of one medical officer, a sister tutor, and two African assistant instructors of the Medical Assistant grade. The trainees were divided into three classes based on their army grades and educational background. Adjustments in these classes became necessary later as a result of observation of the work of individuals and their showing in weekly tests. Seven men were discharged as unsuitable for further training.

SECTION IX.—A. LABORATORY SERVICES

Report of the Medical Laboratory.—The European staff of this section consists of a senior pathologist, two pathologists, one analytical chemist and three laboratory assistants. The senior entomologist and his staff are also members of the laboratory.

Secondments to the army, transfers and retirements greatly depleted the staff of this unit which has functioned shorthanded for a considerable period. An assistant bacteriologist was appointed in June 1946.

Two of the African staff, who were seconded to the army returned to civil duty in 1945 and four trained laboratory assistants were posted to Mulago Hospital for duty during the year.

The training of laboratory assistants proceeded uninterruptedly throughout the war years. A total of 52 qualified during this period out of 53 who underwent tuition. The course was extended to include lectures on elementary anatomy and physiology and the technique of the Widal and Kahn tests.

The services of the laboratory have been open to private practitioners without charge for examinations of public health importance, such as Widal tests and the examinations of throat smears. A schedule of charges for other examinations was instituted in 1940 and copies of this schedule were sent to all practitioners. The services of the laboratory are evidently appreciated, and revenue from this source, though still comparatively trivial, has steadily risen to Shs. 2,451/50 in 1946.

Protective inoculations.—Blood tests of Uganda natives taken in 1936 showed that a proportion of those examined were immune to yellow fever, indicating that the disease had been present in this country, during the lifetime of the present generation. An outbreak of yellow fever in the Sudan in 1940 led to a campaign of protective inoculation in Uganda as a precautionary measure. From 1941 to 1946, a total of 32,726 persons, comprising 2,439 Europeans, 9,764 Asians and 20,552 Africans were inoculated at the Medical Laboratory.

Anti-typhoid vaccine prepared according to the Felix process, was manufactured in the laboratory for local use during the war. A small quantity of Besredkas' "Antivirus" against *Staphylococcus aureus* was also made.

Penicillin.—Experiments with imported strains of *Penicillin notatum*, cultured on a pea flour medium, were found to give a stronger and more stable solution of penicillin than other media tried earlier. Until the pure product became more generally available, this crude penicillin was manufactured locally for external use in eye lotions, gargles and wound dressings and was found most effective. It also proved useful in testing the penicillin susceptibility of local organisms isolated from septic lesions.

Dysentery.—In view of the numbers of cases of this disease occurring among the inmates of Luzira Prison, the routine examination of the faeces of cooks employed at the institution was begun in 1943. Six carriers of amoebic dysentery, one of *B. dysenteriae* (Sonne) and others whose stools were abnormal, were discovered. Their connection with the kitchen was promptly severed. Investigation of a severe outbreak of dysentery in Kigezi District was shown to be due to *B. dysenteriae* (Shiga).

Other bacterial intestinal infections occurring during the period under review were proved to be due to members of the *Salmonella* group, *B. aertryeke* and *B. enteritidis* (Gaertner) being the commonest. Agglutinins of the former are very common in the blood of local Africans.

Salmonella (Heidelburg) was discovered in the Protectorate for the first time in 1945 and a new type of the same group isolated in this laboratory was given the name *Salmonella ugandae*.

Helminthic infestations are commonly detected while examining stools for other causes of illness, cestodes and nematodes being frequently encountered. Two cases of hydatid cyst were seen at autopsy. *M. perstans* is not uncommon in blood films, but *M. bancrofti* is practically unknown though widely distributed on the southern littoral of Victoria Nyanza. A single case exhibiting the ova of the trematode *Heterophyes* was demonstrated in a native of Ruanda. It is the first time and only time the worm has been found in Uganda.

Plague has been diagnosed on only a few occasions in the past few years. In one instance *B. pestis* was demonstrated in the cerebro-spinal fluid of a child with meningitis. The three common types of malarial parasite were frequently observed in blood films.

Statistical data of the work of the laboratory for 1946 are given below: —

1. Parasitology.

Blood films (*a*) European and Asians		1,347
Positive for *P. vivax* ..	4	
Positive for *P. malariae* ..	11	
Positive for *P. falciparum* ..	238	
Positive for *S. recurrentis* ..	2	
(*b*) Africans		20,763
Positive for *P. vivax* ..	7	
Positive for *P. falciparum* ..	2,986	
Positive for *P. malariae* ..	137	
Positive for mixed infections ..	89	
Positive for *S. recurrentis* ..	36	
Dark ground examinations		88
Faeces (*a*) Europeans and Asians		1,735
Positive for *E. histolytica* ..	12	
Positive for *Ankylostoma*	1	
Positive for *S. mansoni*	2	
(*b*) Africans		2,047
Positive for *E. histolytica* ..	19	
Positive for *Ankylostoma*	742	
Positive for *Taenia*	24	
Positive for *Ascaris*	27	
Positive for *S. mansoni*	1	

2. Serology.

Kahn tests on Sera	21,972
Kahn tests on cerebro-spinal fluid	419
Agglutination (Widal) tests for Enteric and other fevers	713

3. Bacteriology.

Blood cultures	193
Urine cultures	188
Faeces cultures	360
Sputum for *M. tuberculosis*	1,099
Pus, swabs and smears	1,194
Vaccines prepared	24
Sterility tests on drugs	159
Water samples examined	56

4. Clinical Pathology.

Blood counts etc.	192
Cerebro-spinal fluid examination	163
Blood sedimentation rates	4
Blood grouping	6
Urine general examinations	1,286
Pleural and other fluids examined	118
Other examinations	62

5. Autopsies and Histo-Pathology.

Autopsies—Medico-legal	99
Autopsies for Mulago Hospital	454

Histo-Pathology.—During 1946, 618 specimens were examined histologically. This was almost entirely operation and biopsy material and excludes material from 454 post mortems. Of the specimens submitted 52 were from Europeans or Asians and the rest from Africans.

The following is a brief analysis of the findings:—

Tumours	Europeans and Asians	Africans	Total
CARCINOMA			
Skin	..	53*	53
Tongue	2	..	2
Stomach	1	..	1
Bowel	1	3	4
Bladder	..	1	1
Prostate	..	1	1
Uterus	3	4	7
Breast	3	3	6
Others including secondary deposits from unknown Primary tumours	..	14	14
TOTAL ..	10	79	89
SARCOMA			
Fibrosarcoma	..	4	4
Chondrosarcoma	..	4	4
Osteogenic Sarcoma	..	1	1
Lymphosarcoma	1	2	3
Undifferentiated	..	3	3
TOTAL ..	1	14	15
MELANOMA	..	5	5
Other malignant tumours ..	1	7	8
Simple tumours	12	37	49
Tubercular (Extra pulmonary)	..	21	21
TOTAL ..	13	70	83
OTHER EXAMINATIONS			
Chronic appendicitis ..	7	21	28
Endometrial biopsies ..	18	32	50
Liver biopsies	..	78	78
Miscellaneous	3	272	275
TOTAL ..	28	403	431
GRAND TOTAL	52	566	618

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* 29 of these were epidermoid carcinomas of the penis.

An indication of the increase in the numbers of non-medico-legal post mortem examinations performed in recent years is given in the following table.

1939	105	1943	261
1940	170	1944	284
1941	243	1945	253
1942	322	1946	454

Data obtained from examinations at necropsy are being subjected to analysis and compilation with a view to placing the information at the disposal of the teachers in the Medical School. Sections for histological examination and demonstration have been taken from all affected tissues found. Forty specimens have been added to the museum.

6. Chemical Analysis.

225 samples or exhibits were examined being an increase of 51 on the total for 1945. Two water samples were received for analysis and report as to the softening or conditioning treatment required to make the water suitable for boiler use.

7. Medico-Legal Examination.

Identification of blood stains, etc., for the Police numbered 65. In addition 84 specimens or exhibits were examined in 24 cases, mainly for the identification of poison. Among these were found arsenic, bismuth, strychnine, mercury, sulphuric acid, lead, phenol and yellow phosphorus. A vegetable poison which exerted a glucoside-like action on a frog's heart and was toxic to animals was not identified. Other work for the police included eight samples of liquid suspected to be "waragi" or other spirit and three specimens of gold for identification.

8. Food and Drugs.

21 samples of milk were submitted for analysis of which only three were unadulterated. The others were watered or deficient in fat. Nine samples of flour or bread were received from the Price Controller to be examined for purity or classification into the white or standard flour groups. Maize and mixed meals were examined for purity or composition. Other samples in this category included honey, golden syrup, vegetable oils and native beer.

A specimen of hydnocarpus oil suspected to have caused reactions when injected subcutaneously was found to contain oxidation products, resulting probably from improper storage. A bottle of saline solution received from the medical storekeeper, was found to contain insoluble siliceous matter, due apparently to the action of the liquid on alkaline glass at the temperature of sterilisation. Tests on the glass showed that it did not comply with normal standards.

9. Miscellaneous.

Under this head are included textile fabrics from the Supplies Department, chemicals used in water treatment, seeds, human milk, samples of denatured spirit from the Customs Department and pieces of lung for evidence of silicosis. In all, 24 of these substances were subjected to scrutiny and test.

In the aggregate, 752 biochemical tests were performed:—

Test meals	79	Urine, sugar	12
Blood sugar	50	Cerebro spinal fluid examinations	393
Blood urea	94	Blood calcium	2
Van den Berg's test	37	Blood urea	1
Urea concentration tests	84		

SECTION IX.—B. DENTAL SERVICES

The work of this unit includes attention to the dental requirements of European and Asian officials and their families as well as Africans. The staff of the unit consists of two dental surgeons, one dental mechanic and two African orderlies, one of these latter being able to give some help to the dental mechanic. Previous to 1945 there was only one dentist but a second was appointed early in 1945 for work among Africans at Mulago Hospital. In July 1945, a dentist was engaged temporarily, to conduct a dental survey of African school children and the African population generally.

The two sections of the unit work separately, one at the European Hospital, the other at Mulago General Hospital, Kampala. The equipment of both sections is satisfactory and modern. All types of work are undertaken and the latest processes and materials used.

There were certain shortages of equipment and material during the war years, but in general, stocks were adequate and the service provided was of a reasonable standard.

The dental treatment given to European and Asian officials and their families during 1946 is detailed below:—

(1) APPOINTMENTS	1,866
(2) THE FOLLOWING CONDITIONS WERE TREATED—	
Carious teeth	861
Acute pulpitis	15
Acute alveolar abscess	24
Chronic alveolar abscess	4
Apical infections	64
Localised parodontal infections	30
General parodontal disease	26
Acute ulcerative gingivitis	3
(3) CONSERVATION—	
Silver amalgam fillings	510
Synthetic porcelain fillings	108
Cement fillings	20
(4) TREATMENT—	
Root treatment	4
Scalings	380
Extractions with local anaesthetic	407
Extractions with general anaesthetic	65
Miscellaneous treatments and dressings	289
(5) PROSTHESIS—	
Dentures	48
Repairs	35
Gold inlays	5
Plastic inlays	12
Plastic jacket crowns	5
Plastic dowel crowns	1
Bridge work	4
Orthodontic appliances	1

The dental surgeon appointed early in 1945, deputised at the European Hospital during the first quarter of the year. Later, while a suitable surgery was being constructed for his work at Mulago, he proceeded on tour, attending European, Asian and African officials and any others who presented themselves for treatment in the districts. An inspection of children in the schools in, and around Kampala was undertaken, and appears to have been welcomed by both the children and their parents, a good augury for the introduction of a School Dental Service. The compilation of accurate and complete statistics of observations made, was handicapped owing to lack of adequate clerical assistance.

The following is a summary of the dental work at Mulago Hospital:—

Out-patients	2,790
In-patients	155
Particulars of in-patients.	
Treatment under general anaesthesia	55
Fractured maxillae	16
Ulcerative stomatitis	63
Other conditions	21
	155

A course of lectures in dentistry was given to final year students at Mulago Medical School.

Name of School	No. examined and treated	Percentage requiring treatment
		%
Buloba Primary	165	85
Mukono Secondary ..	400	90

Treatments given at each school were as follows:—

Name of School	Scaling	Restorations	Extractions
Buloba Primary ..	92	33	10
Mukono Secondary ..	347	52	18

Advantage was taken of a gathering of parents on prize-giving day at Mukono to deliver a simple talk on dental hygiene.

The results of the general dental survey of the Protectorate undertaken by the lady dentist, over a period of five months are briefly reported as follows:—

School children in all four provinces were examined, and operations were conducted from 65 centres in ten representative districts. There are approximately 95,000 children in Government grant-aided schools in the country. In this survey a total of 11,525 pupils were inspected, representing 12% of the total school population of Uganda. In addition, 1,118 other persons of and over the age of 23 years were examined.

This information is tabulated below according to provinces, for ease of reference :—

Province	No. of Districts	No. of Centres	Nos. examined
Buganda	1	14	3,762
Eastern	3	26	4,146
Western	4	20	3,403
Northern	2	5	1,332
TOTAL . .	10	65	12,643

The scholars examined were of both sexes and of ages up to 22 years. The majority of the pupils were African but included in the total are 641 Indians.

Classification by sex was as follows:—

Province	Males	Females	Total
Buganda	2,365	1,397	3,762
Eastern	2,831	1,315	4,146
Western Northern }	3,434	1,301	4,735
TOTAL	8,630	4,013	12,643

Individual charts were made recording particulars under the headings, general, physical and dental. The information obtained and the observations made were reasonably comprehensive. Assessment of the results was based on well established statistical practice. Communication with individuals in the different tribes, on a set questionnaire, was unavoidably delegated to interpreters but whenever possible, doubtful information was checked by other methods. The results of the observations made on affections of the teeth and gums in Africans are best summarised in tabular form. A series of these with descriptive headings and explanatory comments or notes of special interest are given below: The average African was observed to have well calcified teeth, evenly arranged in strong elongated jaws and the incidence of dental caries was found to be much lower than that found among similar age groups in Great Britain.

Incidence of dental caries by provinces (age 8 to 22 years) :—

	Buganda	Eastern	Western and Northern	Total
Persons examined	2,672	3,267	4,094	10,033
Number of persons having caries	350	431	653	1,434
Percentage	13·2	13·1	15·9	14·2

These figures are in striking contrast with those obtaining in Great Britain, where in the rural district of the Island of Lewis 71·9% of children between 1 and 15 years were found to have dental caries. The contrast is even more accentuated when comparison is made with the findings for children of this age group living in the industrial areas of England, where 97·5% and 98·1% of children in Sheffield and London respectively, were found to be suffering from dental decay. (King, 1940).

Representatives of many different tribes were examined, but of these only 12 of the main tribes of Uganda were sampled in sufficient numbers to produce adequate data. The figures showing the percentage of caries in these tribes in the age group 8–22 years are arranged below in ascending order of incidence.

Percentage incidence of dental caries in different tribes:—

Tribe	Number examined	Dental caries
		%
Batoro	282	4·3
Karamojong	85	6·0
Banyankole	260	7·3
Basoga	1,242	10·0
Banyaruanda	172	11·0
Baganda	2,377	13·0
Bakonjo	46	13·0
Acholi	486	14·1
Banyoro	1,049	14·3
Teso	1,940	15·3
Lango	491	19·3
Bakiga	491	32·3

The highest and lowest incidence of dental caries occurs among the Bakiga of Kigezi and the Batoro of Fort Portal, respectively. Both tribes belong to the Western Province abutting on the Belgian Congo. It was remarked that the teeth of the Bakiga were dull, stained and dirty in comparison with the white shining teeth of other tribes. Throughout Uganda no difference was detected, in the incidence or extent of caries, in the two sexes.

Gingivitis, in varying degree from mild and localised to chronic and extensive, was observed to be much more common than caries. Its occurrence tended to increase with age, but proof of this was not obtainable because of the small numbers examined in the higher age groups. Females in certain tribes were noticeably less affected than males in this respect, a circumstance attributed with fair probability to the fact that they consume more green leaves and vegetables in their dietary. The deposition of tartar on teeth is evidently closely related to the prevalence of gingivitis among these tribes, though no apparent relation between either and caries is discernible. As with gingivitis, women are less affected than men.

Gingivitis and tartar (age group 4 to 14 years):—

Tribe	Number examined	Gingivitis affected	Tartar affected
		%	%
Banyoro	255	6·3	13·4
Acholi	119	10·0	21·8
Teso	448	12·9	16·2
Basoga	319	13·2	39·2
Banyaruanda	61	16·3	42·6
Bakiga	123	17·1	34·9
Lango	139	19·4	38·8
Banyankole*	72	26·3	51·3
Baganda	601	27·6	37·2
Batoro	37	35·1	48·2
Karamojong	10	40·0	53·8

*Only males in this group were examined. The total percentage with gingivitis would be conceivably less, had females been included. The impressive difference in the prevalence of gingivitis and tartar between the sexes is revealed in the figures, for boys and girls of Namirembe school shown in the table below:—

Age in years	Sex	Number examined	Gingivitis %	Tartar %
12–13 ..	Male	54	38·8	48·1
	Female	47	2·1	12·7
14–15 ..	Male	44	18·1	36·3
	Female	48	8·3	14·5

Of 12,643 persons inspected 1·85% or 235 showed abnormalities of alignment of the permanent teeth. Hypoplasia of a gross degree, *i.e.*, defects visible to the naked eye, were recorded in 1·2% of those under scrutiny, which is a lower incidence than that found among Europeans.

The wearing away of teeth, dependent to a great extent upon the hardness of the food eaten, was apparent in schools in Soroti, 19 or 8·5% of 223 children examined showed attrition due, it is thought, to millet being ground between stones softer than those used elsewhere. The flour in use was found to contain fine stony particles. Supernumerary teeth of the permanent dentition were not infrequently revealed. The congenital absence of permanent teeth was apparent in 172 cases, though this finding was not radiographically confirmed.

It was observed that except among the Bakiga, dirty teeth were rarely seen among Africans. The majority use a frayed twig as a tooth stick, while in Teso sand is employed with no apparent ill effect on teeth or gums. The deposition of tartar is unaffected by either cleansing method. The use of a tooth brush and dentifrice is limited to a very few of the more prosperous Africans, resident in the vicinity of the principal towns.

Among other dental conditions, transposed teeth were observed in eight cases. Artificial dentures and fillings were seen in a dozen cases, while gold or brass crownings of the lateral incisors were seen in three instances. This is apparently a form of adornment and inflammation of the gum was observed in two of these cases. Tooth extraction or mutilation, as a means of tribal identification, is practised in certain tribes. Extraction is performed by the use of a bent pin or nail or an incision, with a sharp stone or piece of metal, on either side of the tooth. The operation is performed between the ages of 8 and 14 years. Filing of teeth, usually the upper incisions, is a common practice. The aetiological factors of diet, soil and climate, affecting dental health were investigated but the last two named were dismissed as having no obvious or palpable local influence.

The presence or otherwise in adequate amounts of calcium, phosphorous, the fat soluble vitamins and phytic acid in food stuffs, and florides in the soil and drinking water, in certain districts may help to explain the degree of immunity to caries found in the different areas of the Protectorate. It is considered that the relative immunity of the inhabitants of Kisoro, a volcanic area in Kigezi is due to the florides contained in the water.

A table showing a correlation of dental disease and diet in school children of the age group 8 to 22 years is given below. Certain anomalies, to which attention is drawn are at once apparent, indicative of the possible influence of other factors than diet:—

Locality	Caries %	Relative incidence of gingivitis	Relative incidence of tartar	Staple diet
Toro	4	1·5	1·25	Bananas, millet.
Karamoja ..	6	2·3	1·35	Milk, blood, sorghum, wild fruits and vegetables.
Ankole ..	7	1·3	1·6	Milk, blood, millet.
Busoga	10	0·72	1·3	Bananas, millet.
Buganda ..	12	1·45	1·3	Bananas.
Bunyoro ..	14	0·33	0·41	Bananas, millet.
Acholi	14	0·51	0·59	Millet.
Teso	15	0·77	0·56	Millet.
Kigezi				
Kabale ..	32	0·84	1·1	Bananas, millet.
Kisoro ..	11	0·81	1·3	Beans.
Lango	19	0·91	1·25	Millet.

The anomalies referred to above are manifest from a scrutiny of the table. The incidence of caries, it will be observed, is low in the two districts (Karamoja and Ankole), where the diet consists of milk and blood with grain. One would hesitate to ascribe this freedom from caries to the sole influence of diet, since the Batoro, whose diet is mainly bananas and millet, are also little affected by dental caries. Further it is observed that the staple diet in the areas—Kabale and Toro with the highest and lowest incidence of caries, is identical.

The survey revealed that among the 12 main tribes of Uganda the Batoro, Karamojong and Banyankole have the best teeth and the Bakiga the worst. The Banyoro suffer least from gingivitis while those, enumerated above, with the best teeth are most afflicted by this ailment. Females of certain tribes, notably Banyoro, Basoga, Teso, Bakiga and Lango, are less affected by gingivitis than males. There is a close correlation between the incidence of gingivitis and of tartar deposition, but no apparent connection between these two conditions and caries.

SECTION IX.—C. ENTOMOLOGICAL DIVISION

Staff.—One entomologist proceeded on leave in the middle of 1946 and did not return. Two others joined during the year while the field staff of the Tsetse Control Unit was increased to three European officers.

A survey of rats and fleas in Karamoja was completed and extended to cover Ankole and Toro. These investigations completed the series of preliminary examinations of all districts in the Protectorate. The results have been correlated and are being prepared for publication. Mosquito surveys were conducted in nine separate areas of the territory with a view to establishing a basis for the scientific control of malaria. The problem at Jinja was peculiar in that it involved estimating the danger to be expected, from enormous lake shore swamps (in which little breeding of dangerous anophelines is going on at present), if the lake should rise again. It was considered in this particular instance, that the danger was not very great, but the whole question of anopheles breeding in very large swamps of various types, is one which calls for further investigation.

It seems likely that in some of the smaller settlements adequate anti-larval measures would be prohibitively expensive and attention will have to be concentrated on the protection of individuals and their houses including measures against adult anophelines. D.D.T. treatment of dwellings may be valuable in this connection.

Special surveys were made of the proposed sites for the Research Station of the British Empire Cotton Growing Association, a secondary school at Jinja and the Protectorate mental hospital near Port Bell.

The proposed site for the school at Jinja was found to be unsuitable because of its proximity to extensive mosquito breeding swamps which it was impracticable to render innocuous, except at excessive cost. The other two sites were found to be suitable from the entomological aspect, and recommendations were made for control measures which would maintain their freedom from malaria-carrying mosquitoes. In Kigezi, the possibility of suppressing the breeding of *Anopheles christyi* by shading water pools and wells proved effective. Surprisingly at variance with field observations, the fouling of water with rotting vegetation was, on the contrary, found to be quite ineffective.

Mbwa fly (Simulidae).—The occurrence of a case of onchocercal infestation of the eyes in a Polish refugee living in the Bunyoro settlement, led to an investigation and it was found that the patient had not resided elsewhere in Uganda and that the streams near the settlement were apparently unsuitable for the breeding of any species of Simulium. Adult specimens however were reported to be found on occasion in the area and as the "Mbwa" fly is known to travel long disgances, it is considered likely that the infection was conveyed to this settlement by Simulium from the Murchison falls, 40 miles to the north.

Non-biting flies.—Cases of human myiasis caused by *Cordylobia anthropophaga* were unusally common in Kampala and Entebbe during 1946. This fly is not normally present to any great extent in these areas.

Aquatic snails collected from Masindi reservoir were identified by Dr. Requaert of Harvard who found that they included *Physopsis africana globosa* (Morelet), a usual intermediate host of human schistosomiasis in tropical Africa.

Training of African staff continued and the usual course of lectures was given to Afrian health inspectors.

SECTION IX.—D. PHARMACEUTICAL DIVISION

This section has three main sub-divisions, the medical store, the pharmaceutical manufacturing laboratory, and the dispensary and dispensers training school at Mulago. The first two sub-divisions are located at Entebbe. The present European staff consists of a chief pharmacist and three pharmacists. Four Asians and 71 Africans are employed in various capacities.

In 1940 four pharmacists were employed in the department but one of these had to be detailed to act as Government Analyst and another was transferred to Nigeria. An additional appointment was made in 1941 but for considerable periods only one pharmacist was available for duty at Entebbe. Further additional staff was recruited in 1945 and 1946 and it is now possible to put a qualified pharmacist, in charge of the manufacturing section, in place of the Asian officer who had supervised the manufacturing processes during the war. This arrangement is much more satisfactory and has greatly increased the efficiency and scope of the work undertaken by the manufacturing laboratory.

In addition to the main medical store there are seven separate buildings in various localities in Entebbe, in use for the storage of medical supplies. This arrangement is manifestly inconvenient and is uneconomic both in time and transport, but had to be adopted as a war-time expedient because no additional space had been provided at the central store for many years. It had been the practice for several years, prior to the war, for all bulky goods such as dressings, disinfectants etc., to be consigned directly from the United Kingdom to hospitals, thus obviating the necessity of warehousing in Entebbe. War conditions, frequently involving long delays in delivery, rendered imperative the centralisation of deliveries and distribution.

The cost of drugs, dressings and equipment have been doubled or trebled in many instances, though their pre-war quality has not invariably been maintained with the increase in price. Departmental expenditure on drugs, dressings and medical equipment has risen from approximately £33,000 in 1940 to £110,000 in 1946. This latter figure is barely adequate for the requirements of the present day and makes no provision for the creation of a reserve such as was held prior to the war. The reserves held at the beginning of the war proved invaluable in the early years of the struggle. Uganda was called upon to provide equipment and medical supplies for a base hospital, a casualty clearing station and a field ambulance. Every effort was made to provide these units with their requirements, and as a result our reserves were in great part dissipated. In 1942–1943 the arrival of some 6,000 Polish refugees and 1,000 evacuees of other nationalities, made immediately necessary the provision of beds and equipment for two large hospitals with accommodation for 400 patients, factors which further depleted our stocks.

Government was constrained by the general circumstances of supply in 1942, to organise the provision of medical supplies for the country as a whole. The lengthy period which had to elapse between the submission of orders and the receipt of supplies necessitated the creation of a central buying agency. This task was undertaken by Government and the remaining reserves at the Medical Stores were used to provide relief when serious shortages in supplies occurred in the retail stocks of the Protectorate.

Taking all the circumstances into consideration, the supply position was maintained at a satisfactory level throughout the war. It was necessary to estimate requirements a year ahead of the date of delivery but, fortunately, losses at sea were comparatively small and through the agency of the Lend-Lease system, items which were unobtainable in the United Kingdom were usually procurable from the United States of America.

Many difficulties of supply have been overcome by various expedients during the past six years. Systems of rationing, the organisation and distribution of all supplies by Government and the substitution of locally made for imported articles have all helped to overcome our difficulties.

Pharmaceutical Manufacturing Laboratory.—The manufacture of galenicals, etc., was commenced in 1922 by one of the pharmacists. On this officer's retirement, his duties were delegated to an Asian, who had attained a fair degree of proficiency by experience, but in 1946 a qualified pharmacist again took charge of the manufacturing section.

Altogether a total of 104 pharmaceutical preparations were manufactured at one time or another. In 1946, 18 of these items ceased to be manufactured but 30 new items were produced, and on the whole production figures show an upward trend.

Attention has been paid in the past year chiefly to improving the quality and standardising the methods of manufacture. The use of machinery when available will greatly assist in this endeavour and will of course greatly increase the output. Hydnocarpus oil is now filtered immediately on receipt, in order to remove fats of the higher melting points.

Table 33 is attached showing the items and the quantities produced in the last six years by the manufacturing section under the Chief Pharmacist.

Pharmaceuticals.—Showing output of Pharmaceuticals from the manufacturing section during the period 1941–1946:—

TABLE 33

MAIN GROUP		1941	1942	1943	1944	1945	1946
Cataplasma	*lbs.*	2,660	2,000	3,291	4,105	2,465	4,280
Glycerins	,,	137	31	99	160	185	431
Soap	,,	5,308	90	1,360	5,575	5,005	6,369
Starch	,,	644	200	659	833	989	1,568
Ointments	,,	11,107	11,445	20,796	22,210	20,237	28,752
TOTAL SOLIDS		21,856	13,766	26,205	32,883	28,881	41,400
Extracts	*pts.*	25	130	104	273	97	273
Infusions	,,	192	308	..	84	694	246
Injections	,,	1,465	1,960	1,970	2,569	3,818	3,409
Liniments	,,	2,925	2,276	3,441	3,583	4,377	6,548
Liquors	,,	790	128	454	450	382	517
Mixtures	,,	308	1,024	816	1,636	1,815	1,670
Sprays	,,	2,200	664	1,132	3,972	3,888	6,843
Spirits	,,	664	504	977	1,492	962	1,712
Syrups	,,	264	367	463	921	901	806
Tinctures	,,	2,416	1,058	2,720	3,005	2,319	2,862
TOTAL LIQUIDS		11,249	8,399	12,077	17,985	19,253	24,886

SECTION IX.—E. RADIOLOGICAL DIVISION

The X-ray Unit is situated in the Medical Laboratory at some little distance from either of the hospitals which it serves. Patients have to be brought to it by ambulance. This arrangement is uneconomical to the Department, inconvenient for patients and also precludes proper liaison between the staff of the unit and the hospitals. The site was originally selected as a matter of expediency, pending the provision of suitable accommodation at the hospitals. The equipment consists of a Victor 4–valve set and a Victor Portable set, installed in 1938. The apparatus has been in continuous operation and is beginning to show the effects of age and wear. Defects beyond the ability of the radiographer to repair have been remedied as occasion required, by electrical engineers from the Public Works or Posts and Telegraphs Department. New equipment has been ordered for the European Hospital at Kampala and the present portable set will then be sent to the hospital at Jinja. Provision for adequate X-Ray facilities is included in development plans for Mulago and it is hoped that large scale research on the radio-pathology of Africans will then be possible. For the anticipated expansion of the services of the unit, a small beginning has been made by the engagement and training of four African ex-soldiers as dark room attendants. The training of Africans as radiographers is also being considered.

The total number of cases examined in 1946 was 2,534. This figure conveys little information as, with limited radiological resources, a skiagraphic examination is only possible in a very small proportion of the cases which really require it, and the tendency has been to reserve this method of examination for serious cases. This involves much more work than would be the case if full radiological facilities were available in all cases.

SECTION X.—METEOROLOGY

Detailed meteorological observations for 1946, as recorded at 19 widely separated stations in the Protectorate are given below:—

	Height above sea level	Mean Temperatures				Relative Humidity		Rainfall Total	
		Dry Bulb		Dew Point					
		Hour		Hour		Hour			
	(*ft.*)	08·30	14·30	08·30	14·30	08·30	14·30	*Mm.*	*Ins.*
Northern									
Lira	3,700	69·2	83·9	63·3	62·0	82	50	1,507·3	39·34
Kitgum	3,000	72·2	86·9	63·4	62·6	75	46	1,651·6	65·02
Moyo	3,400	70·0	82·0	62·8	63·1	79	56	1,540·3	60·64
Arua	4,200	68·4	80·8	62·0	62·7	81	56	1,431·6	56·36
Eastern									
Tororo	4,045	68·2	81·2	59·9	59·7	76	50	1,654·7	65·14
Jinja	3,878	69·4	78·9	64·1	64·2	83	62	1,149·0	45·24
Mbale	4,003	70·9	81·9	63·0	62·1	76	53	1,100·7	43·34
Soroti	3,665	70·0	83·3	63·3	60·6	80	49	1,388·8	54·68
Serere	3,738	71·0	83·3	64·3	62·2	80	51	1,486·0	58·50
Western									
Kabale	6,138	53·9	70·9	52·7	55·0	95	58	951·7	37·47
Mbarara	3,734	64·1	76·8	60·0	59·3	87	56	1,054·7	41·52
Fort Portal	5,049	60·6	74·6	57·5	60·5	90	63	1,426·0	56·14
Masindi	3,760	68·5	81·2	62·5	63·7	82	58	1,190·2	46·86
Butiaba	2,037	77·3	83·7	68·6	71·5	75	67	* 767·6	* 30·22
Buganda									
Entebbe	A3,761	68·4	78·8	64·3	64·4	87	66	419·1	16·50
Entebbe	B3,878	68·1	75·8	63·7	64·5	86	68	1,532·3	60·33
Kampala	4,304	67·4	77·0	62·6	62·5	85	62	1,092·2	43·12
Mubende	5,095	64·1	74·6	59·0	61·1	84	64	1,250·5	49·23

*Recording from August only.

The whole of the Protectorate lies between longitude 29·33°E and 35°E, and north and south latitudes 4°15′ and 1°30′ respectively.
The average height above sea level of the meteorological observation posts is 4,000 feet, Kabale at 6,138 feet and Butiaba at 2,037 feet representing the extremities of the scale. The mean range between maximum and minimum temperatures for the year was 20·5, the ends of the scale being reached at Kitgum and Butiaba.

Over the Protectorate as a whole the mean rainfall for the year was 50 inches. The main rains fall between the months of March and October. Butiaba, is again conspicuous in having the lowest rainfall, 30·22 inches and Tororo with 65·14 inches, the greatest.

SECTION XI.—LEGISLATION

With matters of great moment to occupy attention during the years of the war, administrative activities were greatly curtailed. The enactment of legislation was reduced to a minimum and was mainly confined to amendments of existing ordinances when changing conditions necessitated alterations in the Law, Regulations and Rules being formulated or altered and Proclamations issued as occasion demanded.

The following is a list of Legislation of medical significance passed during the years 1940 and 1946; those passed in 1939 appear in the report for that year:—

Ordinances.

The Public Health (Amendment) Ordinance, 1942.
The Medical Registration (Amendment) Ordinance, 1942.
The Medical Registration (Amendment) Ordinance, 1945.
The Masters and Servants (Amendment) Ordinance, 1942.
The Uganda Employment Ordinance, 1946.
The Employment of Children (Amendment) Ordinance, 1946.
The Education Ordinance, 1942.
The Rent Restrictions Ordinance, 1943.
The Prisons Ordinance, 1944.
The Pharmacy and Poisons Ordinance, 1946.
The Hotel Ordinance, 1946.
The Hotel (Amendment) Ordinance, 1946.
The Factories (Amendment) Ordinance, 1946.
The Births and Deaths Registration Ordinance, 1946.

Rules.

The Public Health (Sale of Milk and Milk products Amendment) Rules, 1942.
,, ,, ,, (Amendment) Rules, 1942.
,, ,, ,, (Aerated Water and Ice Amendment) Rules, 1944.
,, ,, ,, (Bakehouse Amendment) Rules 1944.
,, ,, ,, (Building Amendment) Rules, 1942, 1943 and 1946.
,, ,, ,, (School Building) Rules and Amendments, 1944.
,, ,, ,, (Control of Yellow Fever) Rules, 1944.
The Townships (Amendment) Ordinance —Amendment Rules 1940.
,, ,, ,, ,, ,, ,, 1943.
,, ,, ,, ,, ,, ,, 1944.
The Uganda Employment Rules, 1946.
The Self Governing Schools (Grants in Aid) Rules, 1943.
The Prisons Rules, 1944.
The Midwives' (Amendment) Rules, 1944.

In addition, various Legal Notices and Proclamations have been issued from time to time varying the Public Health Ordinance in connection with the control of infectious diseases, particularly smallpox and yellow fever.

Appendix I

REGISTRATION OF MEDICAL PRACTITIONERS AND DENTISTS.

Table 34 gives the number on the Register as at 31st December of each year. The number of Registered Midwives is also given :—

TABLE 34

Registered and Licensed Medical Practitioners and Dentists.	1940	1941	1942	1943	1944	1945	1946
THE NUMBERS ACTUALLY ON THE REGISTERS ON 31–12–46.							
Registered Medical Practitioners	98	99	98	102	105	89	102
Dentists	9	9	8	8	8	5	5
Licensed Medical Practitioners ..	51	55	58	67	74	78	83
REGISTERED MIDWIVES							
Europeans and Asians	134	140	155	166	176	193	207
Africans	294	306	327	348	376	405	439

Appendix II.—Financial

The expenditure on medical services in 1946 was £331,162, which represents 8·17 per cent. of the total revenue of the Protectorate.

The total revenue of the Department during 1946 was £12,886.

TABLE 35

ACTUAL EXPENDITURE

	£	s.	cts.
PERSONAL EMOLUMENTS	153,689	17	05
OTHER CHARGES:—			
Stores, drugs and equipment	86,464	13	48
Hospitals and laboratory maintenance ..	35,540	18	77
Control of epidemic and endemic diseases	12,821	8	9
Public health propaganda	203	17	73
Travelling and transport of staff ..	18,263	5	8
Transport of stores	1,530	13	52
Telephones	1,070	4	82
Water	3,357	0	00
Electricity	3,435	9	5
Incidentals	456	12	23
Publications	252	11	52
Medical and nursing attendance by private practitioners	282	8	00
Expenses in connection with non-native mental patients	293	9	76
Special courses of instruction for medical staff	356	2	58
	318,018	12	16
CONTRIBUTIONS:—			
Internal—			
Grants to missions for relief of leprosy ..	4,069	8	12
Grants to missions for maintenance of midwifery centres	5,275	0	00
Lady Cook Memorial Scholarships for African nurses and midwives ..	..	..	..
Yellow Fever Research Institute ..	645	0	00
External—			
Bureau of Hygiene and Tropical Diseases	334	0	00
Colonial Medical Fund	..	..	..
Quarantine Station, Zanzibar	243	15	00
London School of Hygiene and Tropical Medicine	100	0	00
British Empire Leprosy Relief Association	50	0	00
Joint East African Examination Board in Medicine	50	0	00
Inter-territorial Leprologist	..	..	..
Inter-territorial Malarialogist	..	..	..
	10,767	3	12

SPECIAL EXPENDITURE:—	£	s.	cts.
Building grants to leper settlements ..	500	0	00
Portable X-ray sets	50	10	75
Dental survey of African schools ..	126	15	99
Seven motor vehicles	...	..	..
Renovation of health vans	301	9	17
Purchase of motor vehicles	1,275	5	32
Completion of body building to motor ambulance	122	18	80
	2,377	0	3
ACTUAL REVENUE 1946:—			
VI Fees of Court. Medical charges and hospital fees	12,493	8	70
VI Fees of Court. Dental charges and fees	392	19	1
	12,886	7	71

The following sums were spent by the Public Works Department on medical buildings at the following hospitals during 1946:—

(*a*) NEW CONSTRUCTION.	£
Mulago	8,026
Kampala	1,322
Masaka	1,283
Jinja	689
Mbale	1,021
Namasagali	1,342
Tororo	35
Kabale	44
	13,762

(*b*) HOSPITAL MAINTENANCE AND MINOR IMPROVEMENTS BY PROVINCES.	£
Buganda Province	1,412
Eastern Province	689
Western and Northern Provinces	251
	2,352

Appendix III.—Population

The only statistics available are embodied in the Blue Book.

Appendix IV.—Staff

Principal Appointments, Promotions, Changes, etc., during 1946 :—

APPOINTMENTS	*Dates*
Miss M. Gordon, to be Nursing Sister	15– 1–46
Dr. G. W. A. Dick, to be Pathologist	17– 1–46
Miss S. Anderson, to be Nursing Sister	27– 2–46
Miss A. C. Chitty, to be Nursing Sister	12– 3–46
Mr. V. A. Bunge, to be Health Inspector	18– 3–46
Miss J. Suffrin, to be Physiotherapist	21– 3–46
Dr. S. V. Rush, to be Medical Officer	27– 3–46
Mr. W. Wilkie, to be Health Inspector	27– 3–46
Miss F. M. Leather, to be Nursing Sister	27– 3–46
Miss C. M. Smith, to be Nursing Sister	27– 3–46
Miss B. R. Garman, to be Nursing Sister	27– 3–46
Miss A. H. Atcheson, to be Nursing Sister	27– 3–46
Miss E. A. M. White, to be Stenographer Secretary	27– 3–46
Mr. J. W. Milford, to be Field Officer, Tsetse Survey Unit	19– 4–46
Mr. K. H. Scott, to be Field Officer, Tsetse Survey Unit	19– 4–46
Dr. J. Williamson, to be Assistant Director of Medical Services	4– 5–46
Dr. T. A. Austin, to be Director of Medical Services	14– 5–46
Miss I. M. Tonkin, to be Assistant Bacteriologist	3– 6–46
Mr. N. D. Monger, to be Hospital Superintendent	26– 6–46
Mr. J. C. Baird, to be Pharmacist	10– 7–46
Mr. H. Ford, to be Laboratory Assistant	15– 7–46
Dr. W. G. Timmis, to be Medical Officer	17– 7–46
Miss M. J. Jones, to be Nursing Sister	17– 7–46
Miss F. Thurston, to be Nursing Sister	17– 7–46
Mr. D. C. Bousfield, to be Field Officer, Tsetse Survey Unit	17– 7–46
Miss M. K. Brady, to be Nursing Sister	17– 7–46
Dr. A. R. Darlow, to be Medical Officer	23– 7–46
Dr. R. B. Baird, to be Pathologist	25– 7–46
Miss M. M. I. Crabbe, to be Nursing Sister	13– 8–46
Dr. B. A. Coghlan, to be Senior Medical Officer	5– 9–46
Dr. A. M. Best, to be Medical Officer	5– 9–46
Miss M. C. Daniel, to be Nutrition Officer	5– 9–46
Dr. D. P. Burkitt, to be Medical Officer	5– 9–46
Dr. I. W. J. McAdam, to be Medical Officer	15– 9–46
Dr. C. C. Langford, to be Medical Officer	4–10–46
Mr. G. R. Barnley, to be Entomologist	4–10–46
Dr. J. K. T. Cherry, to be Medical Officer	17–12–46
Dr. A. R. Duff, to be Medical Officer	29–12–46

ACTING APPOINTMENTS			
Mr. E. Walker, Pharmacist, to act as Govt. Chemist from	13– 2–46	to	6–46
Dr. P. B. Robinson, D.D.M.S., to act as D.M.S., from	18– 3–46	to	10– 7–46
Dr. A. R. Lester, S.M.O., to act as D.D.M.S., from	18– 3–46	to	11– 6–46
Dr. G. M. Gibbon, M.O., to act as Surgical Specialist from	18– 3–46	to	26– 9–46
Dr. J. Williamson, A.D.M.S., to act as D.D.M.S., from	12– 6–46	to	10– 7–46
Dr. A. R. Lester, S.M.O., to act as Medical Superintendent	14– 6–46	to	31–12–46
Dr. P. B. Robinson, D.D.M.S., to act as D.M.S., from	25– 9–46	to	11–11–46
Dr. J. W. Williamson, A.D.M.S., to act as D.D.M.S., from	25– 9–46	to	11–11–46
Dr. B. A. Coghlan, S.M.O., to act as A.D.M.S., from	28– 9–46	to	11–11–46
Dr. I. W. J. McAdam, M.O., to act as Surgical Specialist	4–10–46	to	21–12–46
Dr. B. A. Coghlan, S.M.O., to act as A.D.M.S., from	24–11–46	to	17–12–46
Dr. B. A. Coghlan, S.M.O., to act as D.D.M.S., from	18–12–46	to	31–12–46

TRANSFERS	
Miss E. M. White, Nursing Sister, to be Sister Tutor, Tanganyika Territory	5– 9–46

SECONDMENTS	
Dr. W. A. L. Tucker, Medical Officer, seconded to Aden	20– 5–46
Mr. I. W. Beaton, Health Inspector, seconded to Civil Reabsorption Organisation	11– 6–46
Mr. D. W. Munday, Health Inspector, seconded to Seychelles	4–10–46

RESIGNATIONS	
Miss V. A. Stenning, Nursing Sister	14– 4–46
Mrs. B. M. Dick, Masseuse	3– 4–46

Appendix V.—Sanctioned Establishment.

The establishment during the years 1940–1946 was as follows:—

	1940	1941	1942	1943	1944	1945	1946
ADMINISTRATIVE DIVISION—							
Director of Medical Services ..	1	1	1	1	1	1	1
Deputy Director of Medical Services	1	1	1	1	1	1	1
Asst. Director of Medical Services ..	1	1	1	1	1	1	1
Office Superintendent	1	1	1	1	1	1	1
Stenographer-Secretary	1	1	1	1	1	1	1
Chief Pharmacist	..	..	..	..	..	1	1
Pharmacist and Storekeeper ..	1	1	1	1	1	..	..
Pharmacist	..	..	..	..	..	1	2
Asst. Storekeeper and Pharmacist ..	1	1	1	1	1	..	..
Asian Assistant Storekeeper ..	1	1	1	1	1	1	1
Asian Clerks	10	10	10	10	11	11	12
Senior Medical Officer (supernumerary)	..	..	..	1	1	..	..
EXECUTIVE—							
Senior Medical Officers	5	5	5	4	4	4	5
Senior Medical Officer of Health ..	..	..	..	..	..	1	1
Medical Officers	32	32	33	33	34	34	35
Hospital Superintendent	2	1	1	1	1	1	1
European Clerk-Storekeeper ..	..	..	..	..	..	1	1
Stenographer-Secretary (Mulago) ..	..	..	..	..	..	..	1
Receptionist-Clerk (European and Asian Hospitals)	..	..	..	..	..	..	1
Superintendent—Mental Hospital ..	1	1	1	1	1	1	1
Male Nurse—Mental Hospital ..	..	..	..	..	..	..	1
Female Nurse—Mental Hospital ..	..	..	..	..	..	..	1
Pharmacists	2	2	2	2	2	2	3
Instructor of Hgyiene	1	1	1	1	1	1	1
Assistant Instructor of Hygiene ..	1	1	1	1	1	1	1
Chief Health Inspectors	..	..	..	..	1	1	1
Senior Health Inspectors	2	2	2	2	3	3	3
Health Inspectors	12	12	12	12	12	12	14
X-Ray Operators	1	1	1	1	1	1	2
Chief Matron	..	..	..	..	..	1	1
Matrons	..	..	..	..	..	4	7
Nursing Sisters	34	34	34	34	40	44	44
Masseuses	..	..	..	..	..	..	2
Asian nurses and probationers ..	7	7	7	7	9	9	9
Senior Sub-Assistant Surgeon ..	1	1	1	1	1	1	1
Sub-Assistant Surgeon	10	10	9	9	9	9	8
Asian Assistant Pharmacist ..	1	1	1	1	1	1	..
Asian cooks	2	2	2	2	2	2	2
LABORATORIES—							
Senior Pathologist	1	1	1	1	1	1	1
Pathologists	2	2	2	2	2	2	2
Government Chemist	1	1	1	1	1	1	1
Senior Entomologist	1	1	1	1	1	1	1
Entomologists	..	..	..	..	1	1	2
Biochemists	..	..	..	..	..	..	1
Senior Field Officer (Entomological) ..	..	..	..	..	..	..	1
Field Officer (Entomological) ..	..	..	..	..	..	..	3
Laboratory Assistants	4	3	4	4	3	3	3
SPECIAL APPOINTMENTS—							
Medical Superintendent, Mulago ..	1	1	1	1	1	1	1
Specialists	1	1	1	1	1	3	8
Dental Surgeons	1	1	1	1	2	2	2
Dental Mechanic	1	1	1	1	1	1	1
AFRICAN ESTABLISMENT—							
Assistant Medical Officers	35	39	43	44	46	49	55
Laboratory Technician	..	..	1	1	1	1	1
Clerks	..	..	34	35	37	44	48
Medical Assistants	..	..	149	179	180	198	249
Health Inspectors	..	..	39	39	51	72	86
Laboratory Assistants	..	..	23	30	33	36	34
Dispensers	..	..	17	23	23	25	31
African nurses and midwives ..	..	..	..	..	..	..	225

In 1942, alterations were made in designations of certain African appointments which explains the absence of figures for 1940 and 1941 in the above table. In addition to the above, there are a varying number of African Staff including nursing orderlies, laboratory orderlies, health orderlies, wardmaids, cooks, dhobies, and other miscellaneous and menial staff employed at all hospitals.

Appendix VI.—Return of Diseases and Deaths for the Year 1946.

	DISEASES	Remaining in Hospital at end of 1945	Yearly Admissions		Total Cases Treated	Total Deaths		Remaining in Hospital at end of 1946	All Cases including both In and Out-Patients	
			Males	Females		Males	Females		Males	Females
1.	(*a*) Typhoid fever	11	183	91	285	39	15	13	183	91
	(*b*) Paratyphoid fever	..	2	2	4	..	..	..	2	2
2.	Typhus fever	1	5	3	9	1	..	2	5	3
3.	Relapsing fever	6	521	209	736	21	14	12	804	284
4.	Undulant fever	..	5	4	9	..	..	..	5	4
5.	Smallpox	10	59	21	90	..	..	..	79	22
6.	Measles	2	251	126	369	..	..	..	644	422
7.	Scarlet fever	..	..	..	..	..	..	..	..	..
8.	Whooping cough	2	175	204	381	6	11	3	733	751
9.	Diptheria	..	3	6	9	..	..	1	3	6
10.	Influenza—									
	(*a*) with respiratory complications	2	142	71	215	..	..	5	2,445	839
	(*b*) without respiratory complications	1	228	91	320	..	..	3	4,131	2,005
11.	Cholera	..	..	..	..	..	..	..	..	..
12.	Dysentery—									
	(*a*) Amoebic	7	332	183	522	11	3	8	1,005	591
	(*b*) Bacillary	4	411	249	664	23	19	5	539	332
	(*c*) Unclassified	4	196	93	293	20	6	7	974	435
13.	Plague—									
	(*a*) Bubonic	..	..	..	..	..	..	..	..	..
	(*b*) Pneumonic	..	..	..	..	..	..	..	..	..
	(*c*) Septicaemic	..	..	..	..	..	..	..	..	..
14.	Acute Polimyelitis	..	5	2	7	1	..	..	5	4
15.	Encephalitis lethargica	..	12	2	14	7	2	..	12	2
16.	Cerebro-spinal fever	87	1,466	1,272	2,825	280	217	33	1,520	1,335
17.	Rabies	..	69	34	103	2	1	2	69	40
18.	Tetanus	..	28	4	32	9	..	1	28	4
19.	Tuberculosis of the respiratory system	29	355	79	463	104	13	47	372	111
20.	Other tuberculous diseases	14	86	31	131	14	4	19	106	35
21.	Leprsosy	6	33	8	47	1	..	6	322	161
22.	Venereal diseases—									
	(*a*) Syphilis	49	1,523	643	2,215	20	15	68	21,480	17,964
	(*b*) Gonorrhoea	99	4,000	1,704	5,803	75	1	189	13,628	6,470
	(*c*) Other venereal diseases	30	829	420	1,279	15	..	36	3,842	2,125
23.	Yellow Fever	..	..	..	..	..	..	..	..	..

	(*a*) Benign tertian	1	78	44	123	4	8	1	176	58
	(*b*) Subtertian	57	3,045	1,979	5,081	82	56	47	10,835	6,840
	(*c*) Quartan	..	118	81	199	4	3	1	605	341
	(*d*) Unclassified	41	3,511	2,087	5,639	55	53	85	48,383	29,951
25.	Blackwater fever	..	27	10	37	5	3	2	31	13
26.	Kala-azar	..	1	..	1	..	..	1	1	..
27.	Trypanosomiasis	17	59	28	104	8	2	7	59	28
28.	Yaws	33	555	255	843	3	2	68	20,789	14,396
29.	Other protozoal diseases	..	..	..	..	..	..	..	153	31
30.	Ankylostomiasis	32	729	556	1,317	10	11	12	3,804	1,742
31.	Schistosomiasis	8	175	87	270	4	1	5	570	288
32.	Other helminthic diseases	8	645	362	1,015	5	3	8	4,522	2,521
33.	Other infectious and/or parasitic diseases	6	357	117	480	6	2	5	6,167	2,375
34.	Cancer and other tumours—									
	(*a*) Malignant	9	132	149	290	20	14	17	132	149
	(*b*) Non-malignant	8	87	162	257	..	4	5	187	377
	(*c*) Undetermined	2	13	23	38	1	..	..	33	29
35.	Rheumatic conditions	8	438	134	580	1	..	48	21,046	9,361
36.	Diabetes	1	25	7	33	2	3	2	31	14
37.	Scurvy	..	2	..	2	1	..	1	5	2
38.	Beri-Beri	..	..	1	1	..	..	..	1	1
39.	Pellagra	..	3	5	8	..	1	1	8	7
40.	Other diseases—									
	(*a*) Nutritional	18	312	166	496	84	26	28	602	560
	(*b*) Endocrine glands and general	1	111	100	212	1	..	6	357	267
41.	Diseases of the blood and blood forming organs	32	509	392	933	48	42	40	1,568	1,301
42.	Acute and chronic poisoning	..	28	14	42	1	3	1	39	17
43.	Cerebral haemorrhage	1	19	8	28	8	3	..	19	8
44.	Other diseases of the nervous system	21	488	152	661	47	7	22	4,796	2,616
45.	Trachoma	6	241	252	499	..	..	10	3,999	3,072
46.	Other diseases of the eye and annexa	20	747	320	1,087	..	2	20	13,593	8,641
47.	Diseases of the ear and mastoid sinus	6	254	116	376	3	3	10	6,888	4,446
48.	Diseases of the circulatory system—									
	(*a*) Heart diseases	13	153	106	272	44	22	17	474	176
	(*b*) Other circulatory diseases	2	69	32	103	1	2	6	349	305
49.	Bronchitis	8	550	296	854	11	2	11	3,270	2,008
50.	Pneumonia—									
	(*a*) Broncho-pneumonia	15	768	654	1,437	64	70	36	1,364	793
	(*b*) Lobar-pneumonia	42	2,144	891	3,077	145	66	58	2,194	984
	(*c*) Otherwise defined	8	322	158	488	30	13	26	379	335
51.	Other diseases of the respiratory system	34	889	453	1,376	23	11	72	48,447	28,553
52.	Diarrhoea and enteritis—									
	(*a*) Under 2 years of age	2	192	117	311	10	12	3	3,148	2,312
	(*b*) Over 2 years of age	7	332	163	502	22	6	7	5,624	2,937

Appendix VI.—Return of Diseases and Deaths for the Year 1946—*continued*.

DISEASES	Remaining in Hospital at end of 1945	Yearly Admissions		Total Cases Treated	Total Deaths		Remaining in Hospital at end of 1946	All Cases including both In and Out-Patients	
		Males	Females		Males	Females		Males	Females
53. Appendicitis	14	85	69	168	3	2	1	86	71
54. Hernia, intestinal obstruction	39	1,279	202	1,520	86	18	51	2,079	240
55. Cirrhosis of the liver	4	131	32	167	39	5	4	131	32
56. Other diseases of the liver and biliary passages	7	124	67	198	9	3	2	230	131
57. Other diseases of the digestive system	34	1,041	731	1,806	44	25	27	30,382	21,396
58. Nephritis (all forms)—									
(*a*) Acute	6	42	29	77	13	1	1	217	67
(*b*) Chronic	..	82	37	119	25	6	6	85	55
59. Other non-venereal diseases of the genito-urinary system	27	860	900	1,487	7	7	28	1,785	2,093
60. Diseases of pregnancy, childbirth, and the puerperal state—									
(*a*) Abortion	5	..	740	745	..	4	7	..	755
(*b*) Ectopic gestation	1	..	5	6	..	2	2	..	5
(*c*) Toxaemias of Pregnancy	..	..	10	10	..	3	1	..	17
(*d*) Other conditions of the puerperal state	14	..	666	680	..	61	22	..	990
61. Diseases of the skin, cellular tissue, bones and organs of locomotion	427	7,211	2,728	10,366	119	55	453	69,356	33,809
62. Congenital malformations and diseases of early infancy—									
(*a*) Congenital debility (children under 1 year)	..	29	24	53	23	22	..	60	48
(*b*) Premature birth (children under 1 year)	4	40	93	137	23	25	2	40	93
(*c*) Injury at birth (children under 1 year)	..	5	5	10	5	3	..	15	22
63. Senility	..	8	3	11	3	1	..	26	3
64. External causes—									
(*a*) Suicide	..	3	..	3	102	126	..	3	1
(*b*) Other forms of violence	203	3,639	1,188	5,030	97	36	209	43,828	15,426
65. Ill-defined causes	47	1,040	790	1,877	..	..	73	10,098	5,126
66. Malingering	1	9	5	15	..	8	12	49	13
67. Ante-natal supervision	36	..	3,263	3,299	39	29	16	..	28,417
68. Normal living babies	33	1,994	2,105	4,132	..	2	58	1,994	2,105
69. Post-natal supervision	5	..	1,404	1,409	..	1	29	..	6,237
70. Normal labour	55	..	3,168	3,223	..	..	46	..	4,953
TOTAL	1,794	46,359	34,293	82,446	2,039	1,222	1,809	428,048	283,994
71. Examinations	5	164	413	582	..	..	417	29,792	6,935
								748,769	
Dispensaries								1,173,771	
GRAND TOTAL	1,799	46,523	34,706	83,028	2,039	1,222	2,226	1,922,540	

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